

"DEE-LIGHTED"



Cartoon by Robert Minor in St. Louis Post-Dispatch (1911). Karl Marx surrounded by an appreciative audience of Wall Street financiers: John D. Rockefeller, J. P. Morgan, John D. Ryan of National City Bank, and Morgan partner George W. Perkins. Immediately behind Karl Marx is Teddy Roosevelt, leader of the Progressive Party.

Aid and Trade Documents

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A partial exposé of how the United States and its allies built nearly the entire Soviet Union's military-industrial complex, from the Bolshevik Revolution in 1917 up until the present day.

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EXPORT ADMINISTRATION REPORT

118th Report on U.S. Export Controls
to the President and the Congress

Semiannual: April 1978-September 1978

Sirs:

I am pleased to submit this report on the Export Administration covering the second and third quarters of 1978. The seventh to be submitted on a semiannual basis, this report is the 118th in the series.

Included in this report, in Chapter 3, "National Security Controls," under the heading "Consultation with the Department of Defense," is the report of the Secretary of Defense on his activities with respect to our export control program.

Sincerely,


Juanita M. Kreps

THE PRESIDENT
PRESIDENT OF THE SENATE
SPEAKER OF THE HOUSE OF REPRESENTATIVES



of Eastern Europe because the materials are subject to uniform controls enforced by COCOM member governments.

Of the applications denied, one valued at \$6.8 million was for export of a computer to the TASS news agency in the U.S.S.R. This license was denied for both foreign policy and national security reasons.

Temporary Exports Approved

License applications for commodities valued at \$43 million were approved for temporary export to the U.S.S.R., Eastern Europe, and the People's Republic of China during the second and third quarters of 1978. The most significant items consisted of nonmilitary aircraft totaling \$27.5 million, of which \$11 million were licensed to the U.S.S.R., \$9 million to Poland, and \$7.5 million to the People's Republic of China; and electronic computing equipment totaling \$9.5 million to the U.S.S.R., Czechoslovakia, Poland, and several Eastern European destinations.

Temporary Exports Denied

During the second and third quarters of 1978, license applications for temporary exports of commodities valued at \$33,640 to the U.S.S.R and Eastern Europe were denied. All items were under international COCOM security export control.

TECHNICAL DATA LICENSING TO THE U.S.S.R., EASTERN EUROPE, AND THE PEOPLE'S REPUBLIC OF CHINA

The Department approved 65 applications for the export of unpublished and unclassified technical data to the U.S.S.R., Eastern Europe, and the People's Republic of China. This compares with 67 applications in the previous 6-month period and 78 applications in the second and third quarters of 1977.

The Department also approved four licenses for the export of technical data to permit the filing of foreign patent applications. Three of these licenses were for the U.S.S.R.; one was for Hungary.

One application was also approved for temporary export of computer program data to various trade shows in Q, W, and Y countries.

CONSULTATION WITH THE DEPARTMENT OF DEFENSE

Under section 4(h) of the Export Administration Act of 1969, as amended, the Secretary of Defense is authorized to review applications for exports to all controlled countries, including Yugoslavia, to determine whether such exports will significantly contribute to the military potential of the recipient country. In addition, the

Secretary of Defense, in consultation with the Secretary of Commerce, is authorized to determine the types and categories of transactions to be reviewed by the Department of Defense to accomplish this purpose.

From April through September 1978, 3,832 applications were processed for the export of commodities and technical data to these controlled destinations. Of these, 2,645 were exempted from Department of Defense review because the commodities and technical data were of types and categories Defense had determined did not require its review.

The remaining 1,187 applications were reviewed either bilaterally by Commerce and Defense (823), or in the context of the interagency Operating Committee (364), of which Defense is a participating member. In each case, the Commerce and Defense Departments concurred in the licensing action and made no referrals to the President.

Table 3-1 shows the dollar value of commodity licenses and exports to Country Groups Q, W, and Y for the last 10 years.

TABLE 3-1. — Dollar value of commodity license applications processed, licenses issued, and actual exports to the U.S.S.R., Eastern Europe, Laos, the Mongolian People's Republic, and the People's Republic of China¹ Semiannually October 1968-March 1969 through October 1978-March 1979

Semiannual period	Applications processed	Licenses issued	Actual exports ²
			(In thousands of dollars)
Oct. 1968-Mar. 1969	80,262	78,849	101,802
Apr. 1969-Sept. 1969	140,953	78,119	125,777
Oct. 1969-Mar. 1970	135,854	134,602	175,625
Apr. 1970-Sept. 1970	131,227	130,185	161,716
Oct. 1970-Mar. 1971	119,573	107,277	214,407
Apr. 1971-Sept. 1971	328,764	325,477	173,833
Oct. 1971-Mar. 1972	1,406,385	1,400,219	254,366
Apr. 1972-Sept. 1972	367,804	366,343	348,506
Oct. 1972-Mar. 1973	270,310	269,036	872,331
Apr. 1973-Sept. 1973	510,655	509,011	1,313,207
Oct. 1973-Mar. 1974	70,452	62,196	1,396,381
Apr. 1974-Sept. 1974	68,680	53,101	1,648,463
Oct. 1974-Mar. 1975	80,868	82,088	1,083,053
Apr. 1975-Sept. 1975	104,326	102,992	1,200,092
Oct. 1975-Mar. 1976	135,264	114,068	2,353,200
Apr. 1976-Sept. 1976	114,604	88,431	1,797,100
Oct. 1976-Mar. 1977	155,040	123,581	1,623,540
Apr. 1977-Sept. 1977	126,050	99,034	1,169,948
Oct. 1977-Mar. 1978	143,355	142,041	1,479,319
Apr. 1978-Sept. 1978	210,041	198,842	2,488,680

¹ Beginning with the period April-September 1972, figures in all three columns include Laos, the Mongolian People's Republic, and the People's Republic of China. Prior semiannual periods reflect licensing and exports only for the U.S.S.R. and Eastern Europe.

² Actual exports include shipments under validated licenses, some of which were issued during the semiannual period and others during previous semiannual periods. shipments under general license.

TABLE 3-2. — Commodities Licensed for Export to the U.S.S.R., Eastern European Destinations, the Mongolian People's Republic, and the People's Republic of China, Second and Third Quarters 1978

Country and commodity	Value in dollars
All Eastern European Countries, the U.S.S.R., and the People's Republic of China	198,842,302
Albania:	
Magnetic recorders and parts	130,247
Bulgaria:	
Semiconductor manufacturing equipment	82,544
Communications equipment	241,359
Electronic test equipment	370,714
Diodes	1,173
Transistors	2,008
Integrated circuits	1,545
Underwater detection equipment	66,130
Electronic computing equipment	1,312,118
Magnetic recorders and parts	112,810
Oscilloscopes	1,060
Viruses and bacteria	68
Total	2,101,525
Czechoslovakia:	
Semiconductor manufacturing equipment	12,150
Communications equipment	155,058
Lasers and laser equipment	150,225
Electronic test equipment	487,783
Cathode ray tubes	541
Diodes	81
Transistors	1,807
Photocells	1,250
Electron tubes	23,899
Photographic film	801
Integrated circuits	3,942
Electronic computing equipment	14,743,180
Synchros and resolvers	132
Magnetometers	11,068
Magnetic recorders and parts	1,101,417
Oscilloscopes	41,418
Beryllium	158
Chemical materials	76,253
Total	16,902,158
German Democratic Republic:	
Electronic beam equipment	2,581
Semiconductor manufacturing equipment	26,000
Communications equipment	168,407
Lasers and laser equipment	540
Electronic test equipment	1,530,801
Photocells	95,941
Electron tubes	1,000
Transistors	98,000
Electronic computing equipment	2,267,027
Integrated circuits	2,400
Magnetic recorders and parts	1,532,228
Chemical materials	39,206
Oscilloscopes	5,000
Silicone fluid	2,750
Total	5,771,971

Continued

TABLE 3-2 (cont.). — Commodities Licensed for Export to the U.S.S.R., Eastern European Destinations, the Mongolian People's Republic, and the People's Republic of China, Second and Third Quarters 1978

Country and commodity	Value in dollars
Hungary:	
Electronic test equipment	762,351
Electron beam equipment	81,482
Semiconductor manufacturing equipment	137,204
Communications equipment	32,875
Laser equipment	73
Diodes	380
Transistors	6,124
Photocells	9,246
Capacitors	4,914
Electron tubes	2,483
Integrated circuits	534,081
Electronic computing equipment	9,100,915
Magnetometers	1,380
Magnetic recorders and parts	507,058
Oscilloscopes	41,329
Gravity meters	16,283
Beryllium	877
Lithium	170
Compounds and metallic materials	1,195
Bacteria	316
Chemical materials	43,468
Total	11,382,103
Mongolian People's Republic:	
Electronic computing equipment	28,580
People's Republic of China:	
Compasses and gyroscopic equipment	43,627
Communications equipment	88,646
Amplifiers	91,896
Laser equipment	701
Transistors	9,438
Electronic test equipment	937,988
Integrated circuits	63,184
Electron tubes	10,645
Electronic computing equipment	1,460,029
Magnetometers	24,759
Magnetic recorders and parts	2,493,078
Oscilloscopes	2,050
Nonmilitary aircraft parts and accessories	500,000
Underwater detection equipment	519,506
Gravity meters	12,818
Chemical materials	1,306
Total	6,259,662
Poland:	
Semiconductor manufacturing equipment	211,483
Communications equipment	979,788
Photocells	9,717
Electron tubes	9,802
Lasers and laser equipment	14,874
Microwave equipment	500
Transistors	73,183
Electronic test equipment	362,789
Integrated circuits	174,989
Synchros and resolvers	10,272
Electronic computing equipment	6,203,522
Magnetic recorders and parts	856,531
Photographic film	3,663

Continued

TABLE 3-3 (cont.). — Commodities Licensed for Export to the U.S.S.R., Eastern European Destinations, the Mongolian People's Republic, and

TABLE 3-3. — Commodities Licensed for Temporary Export to the U.S.S.R., Eastern European Destinations, and the People's Republic of China

TABLE 3-2. (cont.). — Commodities Licensed for Export to the U.S.S.R., Eastern European Destinations, the Mongolian People's Republic, and the People's Republic of China, Second and Third Quarters 1978

Country and commodity	Value in dollars
Poland (continued):	
Oscilloscopes	23,480
Beryllium	107
Fluorocarbon compounds	60
Synthetic rubber	377
Compounds and metallic materials	315,693
Chemical materials	78,009
Total	9,326,137
Romania:	
Numerical control equipment	188,400
Semiconductor manufacturing equipment	748,392
Compasses and gyroscopic equipment	6,336,444
Communications equipment	4,740,437
Lasers and laser equipment	40,983
Electronic test equipment	741,936
Radio spectrum analyzers	35,049
Translators	41,715
Photocells	2,029
Capacitors	3,183
Integrated circuits	18,496
Electronic computing equipment	18,001,164
Synchros and resolvers	3,323
Magnetic recorders and parts	346,608
Oscilloscopes	43,639
Boron	1,000
Molybdenum	7,078
Fluorocarbon compounds	1,092
Compounds and metallic materials	110,464
Nonmilitary aircraft parts and accessories	25,849
Electric motors	519
Chemical materials	327,626
Total	31,082,907
U.S.S.R.:	
Semiconductor manufacturing equipment	411,991
Communications equipment	172,386
Amplifiers and accessories	91,614
Laser equipment	680
Electronic test equipment	7,000,349
Cathode ray tubes	9,289
Electron tubes	8,668
Translators	4,763
Synchros and resolvers	41,747
Microdensitometers	37,009
Integrated circuits	17,732
Electronic computing equipment	31,289,663
Magnetic recorders and parts	8,266,340
Oscilloscopes and accessories	23,711
Calcined coke	6,486,247
Baggage inspection equipment	70,295
Oilfield equipment	63,322,646
Compounds and metallic materials	163,000
Petroleum and petroleum products	7,061
Electric motors	936
Bacteria	82
Chemical materials	160,204
Total	115,198,302
Multiple Eastern European destinations:	
Integrated circuits	18,760

TABLE 3-3. — Commodities Licensed for Temporary Export to the U.S.S.R., Eastern European Destinations, and the People's Republic of China Second and Third Quarters 1978

Country and commodity	Value in dollars
All Eastern European Countries, the U.S.S.R., and the People's Republic of China	42,011,263
Albania:	NIL
Bulgaria:	
Electronic test equipment	291,470
Czechoslovakia:	
Semiconductor manufacturing equipment	62,833
Electronic test equipment	178,446
Lasers and laser equipment	157,640
Integrated circuits	3,000
Electronic computing equipment	2,826,610
Total	3,225,329
German Democratic Republic:	
Electronic test equipment	12,393
Electronic computing equipment	53,537
Magnetic recorders and parts	110,963
Total	177,897
Hungary:	
Semiconductor manufacturing equipment	49,000
Electronic test equipment	35,849
Electronic computing equipment	643,900
Total	718,749
People's Republic of China:	
Semiconductor manufacturing equipment	49,500
Nonmilitary aircraft	7,500,000
Electronic test equipment	150,107
Electronic computing equipment	121,770
Total	7,821,437
Poland:	
Microwave equipment	5,940
Numerical control equipment	22,572
Electronic computing equipment	2,375,932
Nonmilitary aircraft	9,066,000
Underwater breathing equipment	55,000
Electronic test equipment	175,637
Magnetic recorders and parts	65,000
Total	11,766,121
Romania:	
Numerical control equipment	13,638
Electronic computing equipment	498,247
Total	509,885
U.S.S.R.:	
Semiconductor manufacturing equipment	49,000
Nonmilitary aircraft	11,000,000
Communications equipment	5,935
Lasers and laser equipment	180,137
Electron tubes	200
Electronic test equipment	2,407,078
Microwave equipment	5,640
Photocells	150
Integrated circuits	145
Electronic computing equipment	2,850,450
Gravity meters	5

TABLE 3-3 (cont.). — Commodities Licensed for Temporary Export to the U.S.S.R. Eastern European Destinations, and the People's Republic of China Second and Third Quarters 1978

Country and commodity	Value in dollars
Baggage inspection equipment	68,765
Magnetic recorders and parts	200,843
Total	10,929,720
Multiple Eastern European destinations:	
Electronic test equipment	15,450
Radio spectrum analyzers	59,000
Electronic computing equipment	1,443,510
Magnetic recorders and parts	931
Oscilloscopes and accessories	20,754
Total	1,539,645

¹ Includes all commodities (not included elsewhere) licensed for temporary export for demonstration, testing, or exhibition in more than one Eastern European country during the reporting period.

EXPORTS OF TECHNICAL DATA APPROVED

Exports of technical data relating to the following commodities and processes were approved for each of the countries listed during the second and third quarters of 1978.

Bulgaria	Vehicle battery manufacture
Battery separator production	Tubing and hose manufacture
Machine tools production	Aluminum smelter technology
Servo motors and amplifiers	Carbon dioxide recovery
	Plasticizer manufacture
Czechoslovakia	
Sewing thread manufacture	People's Republic of China
Water gel explosives manufacture	Ethylhexanol production
Gas purification unit	Ethanol production
Butyl ether manufacture	Ethylene complex
Fishing rod blank manufacture	Hydrocarbon liquids from gas
	TV tube manufacture
	Valve, fitting, etc. manufacture
German Democratic Republic	Olefin complex
Sulfur production	Coke manufacture
Gas purification units	
Hungary	Romania
Ethylhexanol/n-butanol process	Electronic digital watch production
Aniline manufacture	Transistor manufacture
Gas purification unit (2)	Operation of polyester yarn plant
Cigarette manufacture	Caustic soda and chlorine plant
Computer programs	

Continued

Romania (continued)
Carbon bisulfide manufacture
Catalytic cracker for gasoline
Tire engineering standards

U.S.S.R.
Off-highway vehicle repair study
Manufacture of hydraulic turbine wicket gates
Propylene oxide process
Antibiotic facilities
Tetracycline production
Gas chromatography
Reflecting coating technology
Cement coating manufacture
Chemical coating manufacture
Alpha olefin production

Technical computer instructions
Oilfield rock bit production
Fuel exhaust system
Diesel engine cooling
Hydrotreating process
Packaging plant
Dialyzer and blood bag production
TV tube manufacture
Gas stream stripping
Butamer process unit
Chemical coating technology
Copier manufacture
Off-road vehicle tires
Catalytic crackers
Ethylene pipeline
Diaphragm manufacture

Is the U.S. the arsenal of Communism?

ON DECEMBER 29, 1940, in one of his famous "Fireside Chats" with the people of the United States, President Franklin D. Roosevelt told his radio audience that "We must become the arsenal of democracy." At that time the Nazi war machine had overrun most of Europe, and Nazi leaders looked hungrily eastward while Japan's war lords turned from the conquest of China to eye the Philippines, Hawaii, and Australia. France had been devastated. England was reeling. The U.S. defenses had been weakened by years of isolationism. The Tokyo-Rome-Berlin "Axis" was at full-scale war production when Franklin Roosevelt nudged this barely-stirring nation with his call for action to save democracy. A year later the U.S., too, was reeling and in the midst of full-scale war.

Today, things are different. The people of this nation, having fought in two world wars and in several other major wars in this century, know full well the dangers of military confrontation, the horrors of war. Then why, we ask — why are we letting this nation export technology with military potential to the East. Why be the arsenal of Communism?

After three months of investigation, this magazine has documented proof of the frequent failure if not total disarray of U.S. government efforts to control or prevent the export of high technology with strategic value or war-making potential to Communist nations. Not only does the U.S. program have intentionally-built-in loopholes, it is operated in part by bureaucrats who don't care about the problem while many of the others are being prevented from doing their jobs by Congress and the White House.

Among the consequences of this bungling are Russian Army trucks carrying invading troops and supplies into Afghanistan — trucks fresh out of factories that were supplied by Western firms, using the latest Western technology. How can this happen? Our government did it, we are told, in the interest of détente. The same sort of situation was uncovered by our investigation in computers, lasers, machine tools, and instruments.

In addition to government failures, militarily-useful high technology has been knowingly diverted to Soviet-Bloc countries by exporters using third parties. Some has been stolen from gullible U.S. marketers.

We don't think you'll enjoy reading the findings of this *IR&D* investigation into the dark side of technology export. We didn't do it to entertain. Instead, we ask you to read and to think carefully about this situation. (Our in-depth report of the problem as we uncovered it begins on page 51.) Then ask yourself, "Do we want the U.S. to be the arsenal of Communism?"


editor

NEWS

FOR PEOPLE IN RESEARCH,
DEVELOPMENT, AND
QUALITY ASSURANCE

The dark side of technology export

An IR&D exclusive

U.S. builds Soviet war machine

U.S. GOVERNMENT efforts to influence the actions of Communist nations by giving away or selling "peaceful" technology have failed—in the very least. At worst, they may have been the prelude to tragedy.

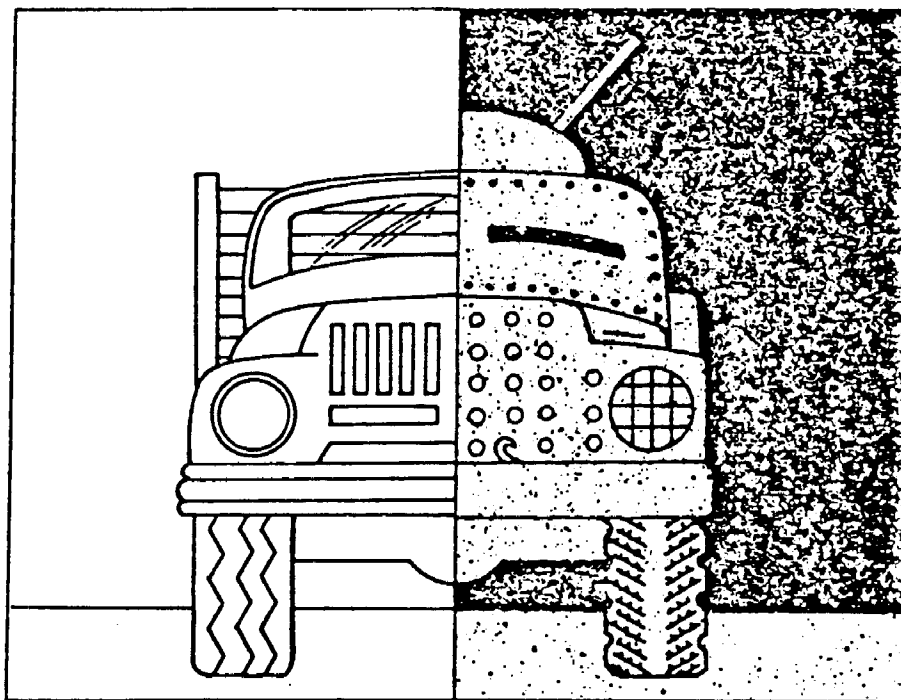
For more than a decade the U.S. government has encouraged manufacturers and R&D firms to export, transfer, and even give away technology to the Soviet Union and East European countries. Three Administrations (Nixon, Ford, and Carter) fostered such activity in the interests of bettering detente and bolstering a badly-slumping U.S. economy and balance of trade.

Recently, however, officials have begun to admit to a growing worry that this strategy not only has failed, it may well have backfired.

There is evidence that the Soviet Union has taken U.S.- and Western-supplied technology and applied it to military uses, building up an awesome war machine that experts believe is—or soon will be—the most powerful in the world.

When Soviet ground troops invaded Afghanistan at the end of last year, they did so in trucks, tanks, and armored personnel carriers. Many of these, the Pentagon says, had been built at Russian facilities originally constructed with U.S.- and Western-supplied equipment and technology.

Here are some other reasons why there is a record crop of gray hair in the Pentagon these days: Minicomputers designed for routine lab work can be used to control nuclear weapons production; laser technology exported for manufacturing purposes can be modified for exotic satellite-killing weapons; computers for weather forecasting and air traffic control



can be programed to direct missile launches; special drill bit machinery for oil and gas exploration can be used to make armor-piercing warheads. The list goes on.

A three-month investigation by *Industrial Research & Development* reveals that the U.S. government's export control policies are in a state of disarray, with federal agencies engaged in back-biting and in-fighting, and with members of Congress lashing out at the Administration. Businessmen and even our European allies are confused and frustrated.

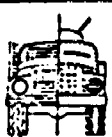
All this has the effect of bringing to a boil the already-heated controversy surrounding technology exports. The outcome of the debate is far from settled, but almost certainly it will affect the character and activities of U.S. high technology firms for many years to come.

"The evidence has accumulated

in recent months that our export control system is a shambles," says Sen. Henry Jackson (D-WA). "What we haven't sold [the Soviets] we have given away in educational, governmental, and commercial technical exchange programs. What we haven't sold or given away, they have stolen.

"A relaxation of controls on strategic trade with the Soviet Union has been a central principle of the policy of detente," Jackson continues. "A purported benefit to be achieved was greater cooperation from the Soviets. But they have exploited detente to acquire the West's latest technology to fortify their military-industrial complex."

Undersecretary of Defense for Research and Engineering, Dr. William Perry, is more explicit: "The sale of technology to the Soviet Union has been of relatively small benefit to the Western world,



The dark side of technology export

but of very great benefit to the Soviet Union—both directly and indirectly assisting their military activities."

"It is virtually impossible to identify a single industry in the USSR which manufactures only civilian goods," says Dr. Miles Costick, director of the Institute on Strategic Trade in Washington. "Every institute, every R&D facility, every educational institution, every factory, has its 'first section' staffed by military and KGB representatives."

Adds Pentagon intelligence expert Dr. Jack Vorona, sales of U.S. scientific and technical equipment to the Soviet Union make "a very significant contribution" to that country's military machine.

All this is not to say that exports of U.S. technology to the Soviet Union have not been financially profitable—they have, but only on a very small scale. And, Perry notes, the Russians "skim off" the fruits of hard-earned U.S. technology by purchasing only what is essential; then through "reverse engineering" they attempt to duplicate the commodity. This not only has saved them millions of dollars in R&D, it also has fostered a steady erosion of the U.S. lead in technical expertise which, trade experts say, will cause the eventual loss of Kremlin-controlled markets anyway.

Such markets are already showing signs of decline, due in part to recent changes in U.S. foreign policy toward the Soviets, and also to a general slowdown in purchases from Moscow. During the past decade Western nations supplied the Soviet Union with more than \$50 billion worth of machine tools, transfer lines, chemical plants, precision instrumentation, and associated technologies, Vorona and Costick state.

In 1979, the United States exported some \$5.7 billion worth of commodities to the Soviet Union and Warsaw Pact countries. But according to the Commerce Department, only \$800 million of this was manufactured goods and about 20% of that, or \$160 million, involved sales of high technology items. In fact, sales of strategic goods comprise only 1% of total U.S. exports.

Take the electronics industry for example. Last year electronics and computer manufacturers and

designers conducted about \$80 billion worth of business. Only \$85 million of this went to the Soviet Union, says Electronics Industry Association spokesman Mark Rosenker. "It's nothing," he states. A Commerce Department statistician agrees. "High tech exports to the Soviet Union are miniscule," the official told *IR&D*.

This year the Commerce Department predicts high technology exports to the Soviet Union will drop to around \$50 million due to restrictions imposed by President Carter after the invasion of Afghanistan.

Then why all the concern? As one Senate investigator told *IR&D*, "The Carter Administration has made no secret of the fact that current export restrictions to the Soviet Union are not intended to represent new policy. They're anxious to get back on the detente track as soon as possible, and have told the Soviets so. When they do, you'll see technology sales to the

It is virtually impossible to identify a single industry in the USSR which manufactures only civilian goods.

Soviets picking up again. The Administration hasn't learned a thing about Soviet intentions."

Intelligence and military experts point out that even though U.S. technology exports to the Soviets are small in dollar volume, for the Soviets they accomplish two things: They provide them with the basic equipment and know-how to help bridge the technology gap with the U.S. (now estimated at five years and closing rapidly); and U.S. exports free the Soviets to spend funds that otherwise would have gone to industrial production on military R&D and procurement instead.

DOD's Perry estimates that the Soviets have spent about \$150 billion more than the U.S. during the past decade for acquiring new military equipment. "Overall, during the decade of the '70s, the Soviets invested about \$70 billion more than we did in defense R&D," Perry told a Senate subcommittee earlier this year. Currently, Soviet defense R&D amounts to twice that of the U.S., Perry says.

According to Larry Brady, former director of the Commerce Dept.'s Office of Export Administration, the Soviet

priorities are clear: "Intelligence information reveals that over and over again the military has top priority... If the military needs something, they go out and get it." How they get it, and what they do with it, have been topics of bitter disputes and exhaustive studies within the U.S. government and private sector, and among our European allies.

"The link between civilian and military production technologies is impossible to separate," says a DOD spokesman. "Aircraft engines, computers, integrated circuits, telecommunications equipment, navigation systems, and avionics are very similar in military and civilian aircraft."

Such "dual use" technologies are at the core of concern over exports to the Soviet Union and Eastern Europe. Complex export licensing procedures have been created by Congress to minimize the possibilities of military diversion but, critics say, there are loopholes in the legislation and the Commerce Department, which has lead responsibility for implementing the export control laws, lacks the ability to carry them out.

Here are a few examples of areas that worry strategic and military experts:

□ Kama River and Zil truck factories. These two sprawling plants were built in the early 1970s, largely with U.S.- and European-supplied machinery and know-how. Military trucks, armored personnel carriers, tank engines, and missile launchers are being built at these factories, experts say.

□ Precision grinders. In 1972, after 11 yrs of waiting, the Soviet Union obtained 164 U.S.-made precision ball-bearing grinding machines from the Bryant Chucking Grinder Co. at a reported cost of \$20 million. These "Centralign-B" grinders can produce miniature ball bearings to extreme tolerances. The ball bearings, intelligence sources say, now are being used in Soviet guided missile systems and gyroscopes for ICBMs and other missiles, including the latest MIRVs.

□ Oil drilling technology. In late 1978 the Carter Administration approved the export of a \$144-million oil well drill bit factory by Dresser Industries to USSR for use near Kuibyshev. The factory would have the capability of producing 100,000 high-strength drill bits/yr. The sale was opposed by many members of Congress and some Defense Department officials.

To explore the controversy, a

Defense Science Board task force was convened, headed by J. Fred Bucy, president of Texas Instruments. The panel recommended against granting the license for export, but Carter allowed the deal to go through nonetheless.

The task force members and some top aides in the National Security Council had three major objections to the sale: It would make it easier for the Soviets to meet their energy requirements and release resources for the military sector. Included in the sale was a computerized electron-beam welding apparatus that also could be used in the manufacture of jet aircraft and might also have nuclear and laser applications. The tungsten carbide normally used to make drill bits could be diverted to make armor-piercing projectiles and warheads.

□ **Array processors.** Geo Space Corp., of Houston, TX, sold at least 36 array processor systems to the Soviet Union and to Communist China. In 1979 the Commerce Department fined Geo Space \$36,000 and suspended its export privileges because the firm sold its seismic equipment to the Soviet Union, China, and other countries without first obtaining the necessary export licenses.

A former Soviet intelligence specialist told Costick that he and other Soviet navy personnel were trained at Geo Space in Houston. The Soviet expatriate reportedly admitted that he carried Geo Space units aboard Soviet submarines and surface ships and installed the units next to the shipboard computers.

Costick explains that the units "assist the computer in digital signal processing and signal analysis which enables the computer to identify tiny differences in the sounds under the ocean's surface, a process which yields the location of enemy submarines."

□ **Computers.** No other single piece of hardware is as vital to both civilian and military sectors as is the computer. According to U.S. intelligence and defense experts, the Soviet Union and its East European proxies have been making a concerted effort to obtain this important technology, in which they are believed to be far behind the West.

IBM officials who visited East European countries were "stunned to find four to five times as many IBM machines in East Europe as they thought were there," Costick says. "There's no doubt they were

illegally diverted."

Pentagon intelligence specialist Jack Vorona told a Senate committee late last year that an entire series of Soviet computers is based on the IBM models 360 and 370 "that were illegally diverted into the USSR in 1971 and 1972." The Soviet RYAD I and II computer series, which are its basic workhorse computers, "are copies of the IBM 360 and 370 series," Costick told *IR&D*.

Says H. Eugene Douglas, director of international trade and government affairs at the Memorex Corp., "From the start of the RYAD project down to the present day, the Soviets have covered the spectrum of activities—overt and covert, legal and illegal, commercial, diplomatic, and academic—to strengthen their computer industry."

East European officials admitted, Douglas says, that they announce potential contract offerings just to elicit responses from Western firms. "As often as not, the responses provide valuable clues to correct errors in RYAD work and give indications as to where Western technology is headed," Douglas told a Senate banking committee.

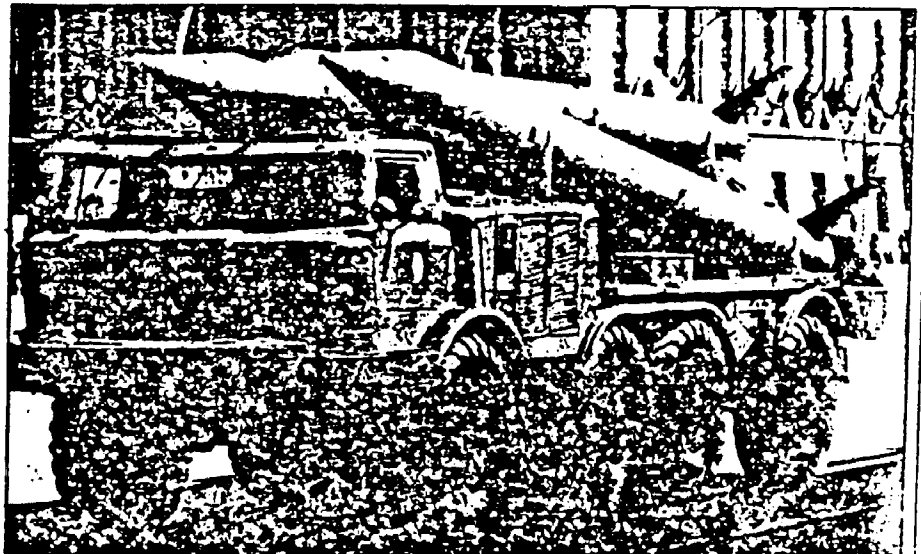
□ **Air traffic radar systems.** The Soviets recently purchased from the U.S. a sophisticated radar system for use at Moscow's Vnukovo Airport. According to Larry Brady, they obtained the system through a "loophole" in U.S. export control system which deliberately was left open in the interests of detente. This system "is far more sophisticated than most widely-used air traffic control systems," even in the U.S., Brady says. "Such enormous capacities would have obvious military potential."

□ **Chemical processing.** One Senate investigator, who did not wish to be identified, told *IR&D* that there now is wide suspicion on Capitol Hill that U.S.- and European-supplied chemical equipment and expertise have aided Soviet development of chemical and biological warfare. The source said that two American scientists who had gone to the Soviet Union in 1977 under a chemical/environmental exchange program, "were very, very suspicious" of what the Soviets were developing in their laboratories.

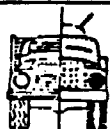
The U.S. scientists carefully observed what their Russian counterparts were focusing on, then briefed a Senator on their suspicions when they returned, the source said. The chemists expressed concern that the U.S.-USSR exchange program was a "one-way street" with the Soviets obtaining valuable information and expertise from the U.S. side.

According to a CIA report, Western chemical equipment and related process data comprise almost all of the Soviet Union's chemical technology. Western equipment currently is producing 80% of Russian polyethylene and 75% of its chemical fertilizer.

□ **Laser technology.** An intelligence report sent to President Carter in May cites evidence that Moscow is developing an anti-satellite laser weapon that could be deployed in the mid- to late-1980s. Walter Spawr, president of Spawr Optical Research Co., told *IR&D* that Commerce Department officials told him his precision laser mirrors might have application in Soviet "killer satellites," and therefore couldn't be exported. Spawr discounts their fears, on the basis that his mirrors are not



Red Army resupply vehicle on Zil 135 chassis. Defense Intelligence Agency photo.



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designed for weapons-level power.

By its nature, laser technology can easily be diverted to weapons research and development. A secret Commerce Department document states that U.S.-made laser systems have found their way to the Soviet Union.

Other areas of concern uncovered in this investigation include:

- Evidence that U.S. exports have been acquired illegally by the Soviet Union and other nations through diversions, re-exports through third countries, and outright theft. One White House study estimates that more than \$150 million in U.S. exports has been illegally exported.

- Indications that the U.S. may have unwittingly trained hundreds of Soviet military engineers and technicians through scientific, educational, technical, and commercial exchange programs. U.S. officials admit that these programs were created in the heyday of detente not to increase scientific knowledge, but to improve political relations. "I think they [the Soviets] get more out of it than we do," said Dr. Ned Austenso, head of NOAA's Soviet exchange program. They were done "to promote intergovernmental relations and not necessarily to promote science," he said.

Documents reveal that under educational exchange programs, Soviet students have come to the United States to study plasma physics, metallurgy, computerized machine control, ferroelectric ceramics, photoelectrics, and semiconductor technology. American students in the Soviet Union, however, typically study sociology, history, literature, Russian poetry, and archeology.

The Pentagon's Jack Vorona states that one Soviet exchange student, in 1976-77 attended a leading U.S. university and focused his studies on fuel-air explosives. This Soviet "student," Vorona says, now is back in Russia engaged in military research—in fuel-air explosives.

While many U.S.-USSR scientific and educational exchange agreements are currently on the skids over Afghanistan and Soviet handling of dissident scientists, the U.S. Administration has indicated a strong desire to begin anew, when "international events permit it." □

Kama River truck factory: best, and worst of tech export

THE KAMA RIVER truck plant is a sprawling manufacturing facility in the Soviet Union located near the city of Neberezhnyye. The plant was built in the early 1970s almost entirely with \$500-million worth of Western-supplied equipment, technology, and know-how—much of it from the United States.

Kama River illustrates, ironically, what proponents of technology export term the best in licensing procedures and also what critics call the worst in U.S. inability to halt the spread of military-related capability.

In 1972 the Commerce Department granted export licenses to major U.S. companies, including Honeywell, Swindell-Dressler, IBM, and Ingersoll-Rand, to sell automotive technologies and production equipment to the facility on the Kama River.

Defense Department officials say that when the licenses were reviewed, they suspected that the plant could also make trucks and other vehicles for military use. But detente being what it was, the Administration at that time decided any such diversion would not be significant, and the licenses were approved. And, inexplicably, end-use statements guaranteeing that the vehicles would not be produced for for the Soviet military were not requested.

At peak capacity the Kama complex can produce 150,000 three-axle trucks and 250,000 V-8 diesel engines a year. Some of these

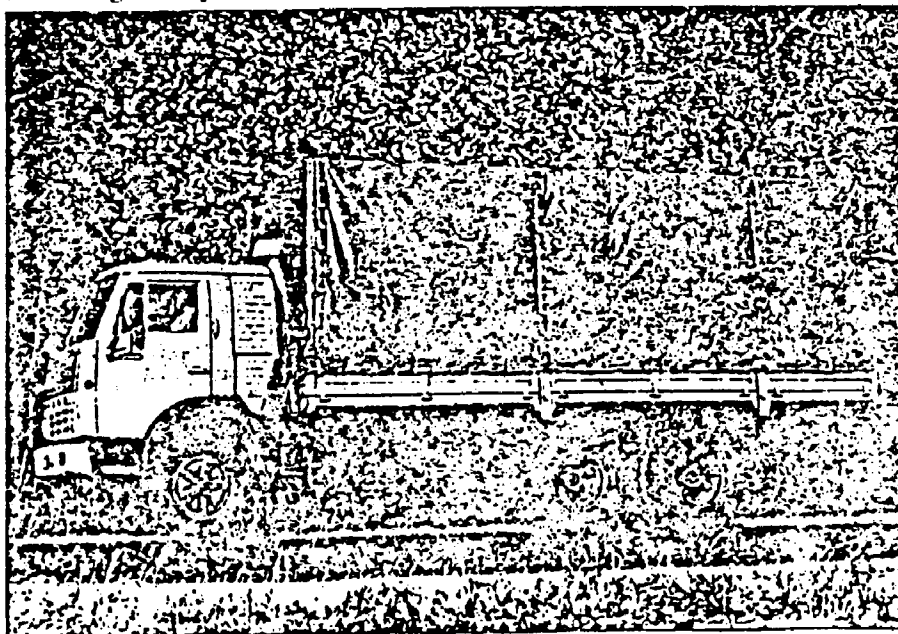
trucks have been outfitted for use as missile launchers and have been exported from Russia for use by Libya, Syria, and Iraq, sources say. And some of the engines are believed to have been used in Soviet T-72 battle tanks.

But what brought Kama River to the forefront of world attention was the fact that these Western-engendered trucks and armored personnel carriers were used in the Soviet invasion of Afghanistan. (Some also were built at the Zil complex, another truck manufacturing facility that came largely from the West.)

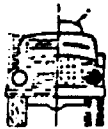
Pentagon officials admitted that they had intelligence as far back as 1977 that military vehicles were being built at Kama River. At that time, it still was not felt that the number was significant. As William Perry, Undersecretary of Defense for research and engineering testified earlier this year, "What in fact has turned out is that a very large percentage of these trucks are going to the Soviet military and they are having a significant effect."

"The Kama River plant in the Soviet Union has become a symbol of the failure of the Export Act," said Sen. Sam Nunn (D-GA).

The National Machine Tool Builders' Assn., however, held that Kama River export licenses "are a good example of the export administration system functioning, not failing..." But the association made clear it did not justify the



Heavy-duty cargo carrier from Kama River plant. Defense Intelligence Agency photo.



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Nixon Administration decision to grant the licenses in the first place.

Following the Afghanistan invasion, President Carter ordered a ban on all strategic exports of U.S. goods to the Soviet Union. Two licenses for IBM spare parts were canceled. But an \$8.5-million contract with Ingersoll-Rand Corp. to build an automated diesel engine assemblyline system for Kama River was being allowed to go through. This system became the focal point for an intense, frequently hostile debate between Congress and the Commerce Dept.

During the first three months of the year Commerce officials refused to consider halting the Ingersoll sale because the diesel engine assemblyline system was to be shipped under a general export license; it was not considered high technology and therefore did not require a validated export license or come under Carter's ban, Commerce officials said.

Ingersoll-Rand, for its part, didn't want to complete the transaction—scheduled for delivery in autumn 1980—out of patriotic reasons, informed sources said. Ingersoll asked Commerce in February to block the sale (a move that some suggested would allow the firm to collect insurance on the partially-completed system).

Informed sources said not only did Commerce refuse to block the sale, they actively encouraged Ingersoll to go ahead with the deal. Officials later attempted to justify their decision on the basis of foreign availability.

"Part of the reason for it is these cost-benefit analyses," said a Commerce spokesman. "There is a very live and very significant position: If they're going to get it anyway, what kind of effective sense does it make" not to sell the Soviets the equipment? A Senate investigator derided this logic, saying that Commerce engages in "pre-emptive foreign availability." Sen. Jake Garn (R-UT) said he saw no reason why the U.S. "should fall over its feet rushing to sell goods to the Soviets" simply because we're afraid others will beat us to it.

An informed Commerce source told *IR&D* that the general license debate "is a big issue here. Some people have been fired because they disagreed with the decisions being made." He added that the battle over export policy is intense and is

being waged "in the higher levels of the department."

"Commerce is playing a word game," charged Larry Brady, former director of Commerce's Office of Export Administration and one of the officials who last year resigned in disgust over export policies. Brady said the Ingersoll diesel engine system, even though categorized under general license, has clear military application, and therefore should come under Carter's ban.

Finally, in May, the Commerce Department bowed to pressure and announced that the assembly line system for Kama River would require a validated license for export before it could be delivered,

and that such license would not be issued.

"It would be inconsistent with our foreign policy to increase the plant's (military) capacity," said Secretary of Commerce Philip Klutznick.

However, one Senate investigator said the real reason was that Kama River-built trucks were being readied near the Iranian border north of Tehran to ship in food and supplies in case the U.S. imposed a blockade on Iran over the hostage crisis.

"It would look pretty sick if Ingersoll-Rand sells the Soviets the equipment to make the trucks that violate the blockade," the source explained. □

Illegal high-tech shipments include goods and know-how

THE ISSUE of illegal diversion and acquisition of U.S. high technology goods and information is an "unspeakable issue" that receives too little attention, says a Senate investigator. Intelligence agencies estimate that between 1973 and 1977, \$150 million in Western-controlled technology was illegally shipped to the East.

"The thefts have included some of our most advanced IBM computers, which the Soviets have copied," says Sen. Henry Jackson (D-WA). Covert activity by the Soviets to acquire U.S. technology is "large, systematic, well-organized, and effective," adds Dr. William Perry, Undersecretary of Defense for research and engineering.

Illegal diversion is an area of which comparatively little is known. It inhabits the murky regions of espionage, sabotage, and smuggling. Information of such activities usually comes to light only when someone is caught in the process and the operation exposed.

Earlier this year a secret Commerce Department document was made public by Rep. John Ashbrook (R-OH). The secret study, prepared by the department's investigation division under Sharon Connelly, reveals 16 examples of "known" illegal diversions of U.S. technology to the Soviet Union and Eastern Europe.

According to the document, the Soviets have been illegally obtaining sophisticated U.S. computers, lasers, integrated circuit technology, software, electronic test equipment, and other devices through third parties, who then transship the materials to the USSR or Eastern Europe.

The illegally diverted technology winds up in Soviet "plants that build ICBMs and their launchers, laboratories that develop new chemical warfare devices, and plants that are turning out the next generation of super-weapons that the American public has yet to hear of," Ashbrook said.

The Commerce Department report lists the following as "examples" of sensitive U.S. technologies that were diverted to the Soviet bloc since 1974:

□ Sophisticated electronic test equipment and analyzers were furnished to a West German national "knowing the intended illegal disposition."

□ Sensitive magnetic recorders and other digital equipment were exported in 1974 "without the requisite license by placing it on a Polish vessel under charter to a Norwegian company. The equipment was transported to Poland and installed on a Norwegian vessel. The latter vessel, reportedly, was subsequently sold to the USSR."

□ Computers and related equipment were "exported under a U.S. firm's distribution license to its subsidiary in the U.K." which in turn incorporated the U.S. equipment into its own equipment it then reexported to Hungary, the document states.

□ Oscilloscopes and other test equipment were diverted to the USSR in 1974 and '75. "The Austrian affiliate of the U.S. exporter imported the equipment and together with another Austrian firm transshipped the commodities to the USSR," the report states.

□ Technical information



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relating to integrated circuits manufactured by one of the largest, most sophisticated manufacturers of ICs in the U.S., "was hand-carried to Austria with requisite license and diverted from there."

In instances where charges have been lodged or proceedings are valid to be under way:

□ Precision laser mirrors manufactured by Spawr Optical Research Co. "were misdeclared, exported to West Germany and Switzerland without the requisite licenses, and diverted from there" to the USSR (probably the Lebedev Institute or Physics Institute in Moscow).

□ More than \$800,000 worth of electronic computer equipment was exported to Eastern European countries without required validated licenses by Information Magnetics Inc., of Goleta, CA. Infomag "did not obtain the requisite validated licenses for shipments to Bulgaria through its United Kingdom subsidiary," the report states.

In 1977, the president of Information Magnetics pleaded guilty to criminally violating export control laws. He was fined \$5,000 and agreed to no longer associate with the firm.

Walter Spawr of Spawr Optical maintains that Commerce Department officials encouraged him to export his laser mirrors to the Soviet Union. When he did so, he was accused of violating export laws, he says. A grand jury has been convened to examine his alleged violations, Spawr told *IR&D*.

Connelly told *IR&D* that she could not comment on her secret report "because we did not release it officially."

According to Ashbrook, the Commerce Department covered up the information contained in the document and withheld it from Congress, which last year was holding hearings into amending the export regulations.

Despite all this, Don Furtado, Deputy Undersecretary of Commerce for trade administration, told *IR&D* that illegal diversion is "probably less significant than one might think."

Sen. Gordon Humphrey (R-NH) thinks otherwise. "Because of these and other clandestine acquisitions, the damage done to our national security is inestimable," he declared. □

Technology export conflict result of varying U.S. views

THE CONTROVERSY surrounding exports of high-technology to the Soviet Union and its proxies has its roots in differing perceptions of the Kremlin's motivations. According to an Office of Technology Assessment report on East-West trade, "disagreements over the future of export controls have yet to be resolved."

"They reflect differing perceptions of the nature of the threat to the United States posed by the Soviet Union and of the ways in which this threat should be faced," the report states.

Critics of strategic trade with the Soviets frequently cite Lenin's famous statement that the capitalists "will supply us with the materials and technology which... we need for our future victorious attacks upon our suppliers."

Conversely, cordial trade relations would help forge stronger links between the free and Communist worlds, or so the main architects of detente—Richard Nixon and Henry Kissinger—believed. During the early '70s, however, when detente was supposed to be working wonders in the international arena, the Soviet party leadership reassured those in the Kremlin who feared such trade with the West might be detrimental to the dialectic of struggle and violence, that detente was simply elevating the ultimate

confrontation to a higher level.

Additionally, the strategy behind the Nixon-Kissinger doctrine was to provide an opportunity to expand U.S. trade abroad and to link the benefits of U.S. manufacturers and technology to Soviet and East European behavior in the international community. Neither aspect fulfilled expectations.

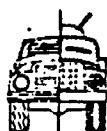
In 1978, trade with the Soviet Union amounted to \$2.8 billion. This was only slightly more than a third the amount of trade carried on with Taiwan during the same period.

In terms of being a policing policy, "When the behavior was disruptive or aggressive it was thought that trade benefits could be withdrawn as a sign of disapproval and as a way of holding back the East European countries in their economic and military development," explains Larry Brady, former director of the Commerce Department's Office of Export Administration.

Says Don Furtado, Deputy Undersecretary for trade administration at the Commerce Department, "the premise behind detente's encouragement 'is that out of economic interdependence—substantial trade—comes an increasing recognition on the part of some countries that it might not be in the interest of their people to initiate actions or practices which



The United States has practiced a policy of using trade to reward good Soviet behavior and withholding trade to punish bad behavior. This U.S. Department of Commerce photo shows Russians visiting a Department of Commerce exhibition of light industrial equipment in Moscow in June of 1976.



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could cause interruption of that flow of beneficial trade. And I think there is some validity to that premise."

Such policy, Brady says, unfortunately never was correctly implemented. "Instead of cutting back exports... sought most vigorously by the Soviet Union when the Soviet behavior in Africa, South Yemen, or the Middle East was flagrantly disruptive and interventionary, a hands-off policy was pursued."

And when suspensions of high-technology exports were imposed to protest maltreatment of Soviet dissidents, they often were short-lived, Brady says. "It became difficult to take them seriously, or to transmit our seriousness to our CoCom [trading allies] partners," he explains.

Yet the philosophy of using trade to reward good behavior and to punish bad is still carried in the Administration's foreign policy. Ironically, even proponents of increased exports to the Communist bloc admit that that premise no longer is valid.

"I have the feeling that many people still have a mental set which goes in an era when we really had a dominant position in technology in every place," says Dr. L. W. Steele, corporate R&D manager at General Electric. That thinking, Steele told *IR&D*, is based on the assumption that "if people didn't get it from us they had fewer options available. And that situation just no longer is true. We have to recognize that."

And it is precisely because the U.S. no longer has a monopoly on many technologies while it still does maintain a preeminent lead in a few key areas, that regulation and licensing of strategic exports are complex and controversial.

Legislation governing exports of technology is contained in the Export Administration Act of 1979. These laws reflect the contradictions between the roots of the controls (based on limiting trade with enemy powers in 1917) and the policy of liberalization (based on amendments passed in 1969, 1972, and 1974) which tend to remove restrictions on trade with communist countries.

The current legislation designates the Commerce Department as the lead agency to coordinate and grant export privileges. Most of its activities

concern handling of dual-use goods—commercial items and technology which also have military significance.

The Office of Export Administration (OEA) within Commerce is responsible for most of the daily work on export controls. OEA coordinates the license review system with other agencies, especially the Defense and State departments, when special requests for licenses to export are submitted.

One of the results of the detente-era liberalization of controls is reflected in the concept of "foreign availability." Simply put, the legislation will permit export without any controls when the items are freely available from another country, providing that U.S. national security is not jeopardized.

Another result of liberalization was the narrowing of restrictions on military-related goods and technology. The language of current

Ban on all shipments of high technology to USSR following Afghanistan invasions has been lifted. Despite tough U.S. talk, it's "business as usual."

legislation states that the Defense Department can recommend against export for national security reasons only when the export "would make a significant contribution to the military potential of such country."

The Office of Technology Assessment, in analyzing the laws, concludes "The import of these changes was that it was no longer sufficient simply to show that an export in some way contributed to military capabilities. The secretary [of Defense] must now stipulate that the military impact is detrimental to the security of the United States"—something that is very difficult to do.

These changes, it is charged, open up wide loopholes in the export control system. What, for example, is "a significant contribution" to military potential, as opposed to a major contribution? And how effective are OEA officials in determining foreign availability? Can they be sure that an item made in, say, France, is comparable to the U.S.-manufactured commodity?

Larry Brady, as director of OEA, was in a position to monitor the license administration process. He says he became alarmed with the way Commerce officials ignored

national security concerns and routinely approved export licenses with little or no legitimate checking.

Brady last year "blew the whistle" and testified before Congressional committees that the Commerce Department was failing in its responsibilities. For this, Brady says, he was eased out of the department, excluded from meetings, barred from receiving memos, and ostracized by his coworkers. Brady, in disgust, quit. An official investigation last year concluded that Brady had been the subject of "prohibited personnel practices" and recommended that he be reinstated to his position. Brady declined to return.

"The working assumption at Commerce was that its role was to facilitate trade," Brady told a recent Senate subcommittee hearing. "This made it difficult for licensing staff to accord the traditional significant weight to national security criteria." Brady maintains that a license would be denied only under extraordinary circumstances. "Nearly three fourths of license approvals were recommended primarily on the evidence of foreign availability," Brady says. But, he adds, "no sources for the data used to assess foreign availability are given..."

The dual, contradictory roles of encouraging trade while prohibiting critical exports make it difficult for Commerce to function properly, says Sen. Jake Garn (R-UT). He has introduced legislation that would take the responsibility of licensing out of the hands of Commerce and place it in the realm of a new Office of Strategic Trade.

The idea has support on Capitol Hill, but others are not sure. Says one informed Commerce source, "What we need is not another bureaucracy. What we need is a clear policy and direction. We could do the job very well if we just knew what we were supposed to do!"

At the heart of the dispute over export licensing is what is known as the Commodity Control List (CCL). Briefly, the licensing system employs two kinds of export licenses—general and validated. A general license is really no license at all; it merely means that a U.S. firm can export any item or technical information without obtaining special permission. General exports apply to 90 to 95% of all commercial transactions. "If it's not a sexy piece of hardware, you don't even need an application," says a Commerce official.

The remaining 5 to 10% are those items that do need a validated

license. These are for goods included on the CCL, namely products and technical data that are judged to make a significant contribution to the military, or items that are under CoCom strategic control.

CoCom (Coordinating Committee for Multilateral Export Controls) is an informal association established in 1949 to restrict strategic exports. Its membership consists of the U.S., England, France, West Germany, Italy, the Netherlands, Belgium, Luxembourg, Norway, Denmark, and Canada. The CoCom allies maintain a list of embargoed items that are not to be exported to Communist countries unless all member nations unanimously vote to approve an exception. Most requests for exceptions are granted.

Dual-use items on the CoCom list are virtually the same as those on the U.S. CCL. They include metalworking machinery; chemical and petroleum equipment; electrical and power-generating equipment; electronic and precision instruments; chemicals and metalloids; general manufacturing equipment; petroleum products; and rubber and rubber products.

Since the 1960s the U.S. share of exceptions to CoCom has steadily risen. In 1962, for example, the U.S. made only 1.6% of 124 requests for exceptions. By 1978, however, the share had climbed to 62.5% out of a total of 1,050 exceptions. "The climb in our share was gradual, evidencing the cumulative loosening of control criteria in the United States as well as in CoCom in general," Brady states.

Adds Sen. William Cohen (R-ME), "If we are the ones rushing in with 60% of the exceptions, then we can't convey a very serious impression to our allies that we regard this as being particularly significant or detrimental to our national interest." As a result, European allies tend to ignore the CoCom list and sell what they like to whom they like.

"I would say where the [military related] technology is available to the Soviet Union anyway, we may as well think first and foremost of our economic health and we may as well get the benefit of selling to them," says Dr. J. E. Goldman, Chief Scientist and Head Corporate Research Centers, Xerox Corp. and an I/R&D Editorial Advisory Board Member.

"If the technology is not available from other countries then foreign policy should override economic considerations. So long as we feel assured that no other

country will export, then I think it is consistent that we shouldn't export either," he says.

"However," Goldman adds, "I think we should use our pressure and influence on our allies to prevent them from breaching the net that holds back military utilizable technology from reaching Eastern European countries."

Take the gradual erosion of CoCom authority, the relaxation of criteria used to screen out strategic technology, and the general attitude in Commerce of encouraging trade rather than restricting it and you have, what Sen. Jackson, Brady, and many others call a "shambles" in U.S. export control.

On Jan. 4, 1980, just a few days after the invasion of Afghanistan, President Carter announced a series of measures against the Soviet Union, including a ban on exports of all high-technology items to Russia. Some 900 validated export licenses were suspended and 300-400 pending applications were frozen by the action, Commerce's Furtado says. However, general export items were still permitted to be shipped (including military-related hardware not on the CCL).

Critics attacked the action as insufficient. The argument over what is considered militarily significant was again fueled.

Two and a half months after announcing the embargo (some say after intense pressure from the business community), Carter lifted the ban but said that every license application would be re-evaluated under tough, new criteria. Since Commerce officials refused to explain just what the new criteria would be, charges were raised on Capitol Hill and elsewhere that the Administration was simply returning to "business as usual" with the Soviet Union.

"It's a case of bankrupt foreign policy," said one Senate investigator. "The Administration just responds in a knee-jerk fashion to events, and doesn't really take the lead," said another Senate source. At this writing, it still is not known what items under validated license have or have not been approved for export to the Soviet Union. As Sen. Jackson says, "The flaws in our export controls are due to an absence of conviction, not of resources; it is within our capacity and that of our allies to remedy them. But the time is long overdue to translate rhetoric about our tough, new policy into effective action."—*Ted Agres* □

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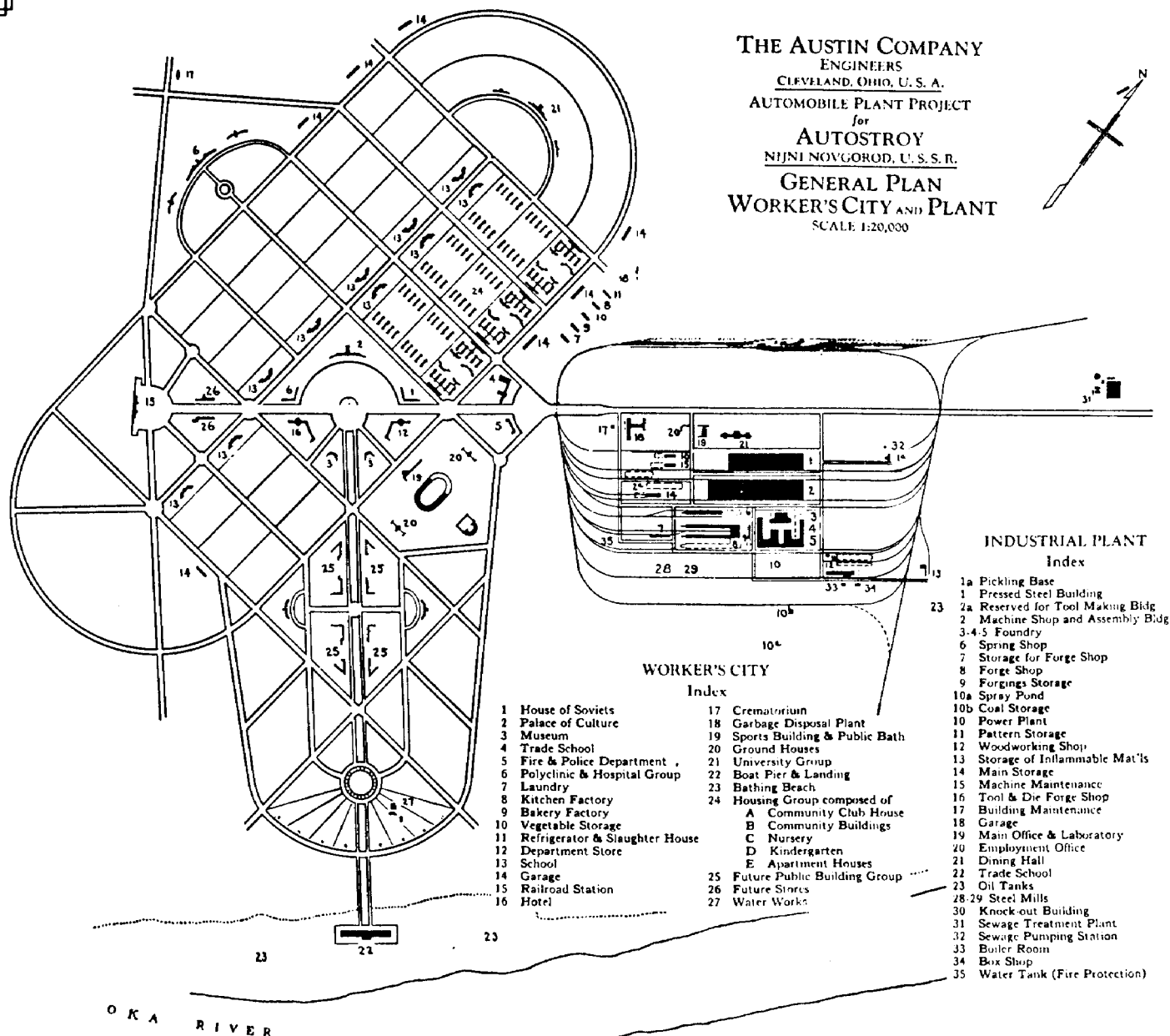
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Figure 16-2 LAYOUT OF NIZHNI-NOVGOROD (GORKI) CITY AND AUTOMOBILE PLANT, PREPARED BY THE AUSTIN COMPANY UNDER TECHNICAL-ASSIST CONTRACT OF AUGUST 1929



Source: The Austin Co.

Western assistance to this industry may best be described by examining motor vehicle plants separately in approximate order of size and by outlining the Western contribution to the technical design and production facilities of each.

Table 16-1 lists in descending order of size the major Soviet motor vehicle plants planned or in operation as of 1971, together with approximate output and the main features of Western origin; Table 27-1 (see p. 384) identifies the civilian and military models produced by these plants.

Table 16-1 WESTERN ORIGINS OF AUTOMOBILE AND TRUCK PLANTS IN THE SOVIET UNION AS OF 1971

Plant	Model Designation	Approximate Annual Output	Summary of Western technical assistance
Volgograd (Togliatti)	VAZ	600,000 (1974 projected)	Three-quarters of equipment* from United States; Fiat technical assistance in construction and operation
Moscow Small Auto	MZMA	300,000	Original Ford Motor Co. equipment (1930), replaced by German Opel (1945) and Renault (1966)
Gorki	GAZ	220,000	Ford Motor Co. (1930); Renault (1970); Gleason Works (1970)
Kama	(KAZ?)	100,000 ^b (projected)	Design and engineering by Renault (France). Equipment from a consortium of U.S. firms: licenses applied for (1971) by Satra Corp., Swindell-Dressler, Ex-Cell-O Corp., Cross Company, and (unconfirmed) Giffels Associates, Inc.
im. Likhachev	ZIL	100,000	U.S. equipment (mostly prewar)
Urals (Miass)	URAL	55,000	A. J. Brandt, Inc. (1930 plant moved from Moscow in 1941)
Odessa } assembly plants	OdAZ	21,500	General Motors (1945)
Lvov }	LAZ		
Minsk	MAZ	14,400	German technical assistance (1945-46)
Yaroslavl	YaAZ	8,000	Hercules Motor Co. (1930)

Sources: See Sutton II, Chapter 11; *Kratkii avtomobil'nyi spravochnik*, 5th edition (Moscow, 1968); *Automotive Industries* (Philadelphia), January 1, 1958; U.S. House of Representatives, Committee on Banking and Currency, *The Fiat-Soviet Auto Plant and Communist Economic Reforms*, 89th Congress, 2d sess. (Washington, 1967); Leo Heiman, "In the Soviet Arsenal," *Ordnance*, January-February 1968 (Washington: American Ordnance Association, 1968); U.S. Senate, Committee on Foreign Relations, *East-West Trade: A Compilation of Views of Businessmen, Bankers, and Academic Experts*, 88th Congress, 2d sess., November 1964 (Washington, 1964); *Metalworking News*, August 16, 1971.

* *Forbes* (October 1, 1966) states three-quarters; the figure may be somewhat less, but is certainly over one-half.

^b Will be the largest plant in the world (covering 36 sq. mi.), and its output of heavy trucks will be greater than that of all U.S. manufacturers combined. Financing by Chase Manhattan Bank and the Export-Import Bank.

Table 27-1 CIVILIAN AND MILITARY MODELS PRODUCED IN
SOVIET AUTOMOBILE PLANTS, 1945-70

<i>Plants</i>	<i>Civilian models</i>	<i>Military Models</i>
Moscow (ZIL)	ZIL 110, ZIL 111 passenger autos ZIL 127, ZIL 155 buses ZIL 150, four-ton truck ZIL 585, three-ton dump truck	ZIL 150 armored truck ZIL 151 armored truck ZIL 157 2.5-ton truck
Ural (Miass) F-	Ural-ZIS-150, four-ton truck Ural-ZIS-5,	Ural-375T (6x6 wheeled) Ural-375 (tracked) Ural-375/BM-24, rocket launcher
Moscow Small Car works (MZMA)	Moskvich passenger auto	Moskva 402, 4-wheel drive cross-country Moskvich
Gorki (GAZ)	Pobeda and Volga M-21 passenger cars GAZ-69, medical vehicle GAZ-69 parts for assembly at Irkutsk, Odessa and Ulyanovsk	M-72 (4-wheel drive cross-country Pobeda) GAZ-46, Soviet jeep GAZ-47, amphibian personnel carrier GAZ-56, 1½-ton military truck GAZ-62, 1-ton truck (4-wheel drive) GAZ-69A, scout car GAZ-69, command car GAZ-69, Shmel rocket carrier
Yaroslavl (YaAZ)	YaAZ-210, 12-ton truck YaAz-210E, 12-ton truck YaAZ-210A, 12-ton truck YaAZ-210G and D tractor	Not known to be making military vehicles at this time
Minsk (MAZ)	MAZ-205, 5-ton truck MAZ-525, 25-ton dump truck MAZ-200, 7-ton truck MAZ-200B tractor	MAZ-57, ammunition carrier MAZ-63, gun tow MAZ-100, utility vehicle

Sources: Institute for Study of the U.S.S.R., *Bulletin* (Munich), III, 1 (January 1956); Leo Heimann, "In the Soviet Arsenal," *Ordnance* (Washington, D.C.), January-February 1968; *Kratkii avtomobil'nyi spravochnik*, 5th edition (Moscow, 1968).

automotive industry can make to the military potential of a country is recognized by the Department. This factor, along with other considerations, enters into the decision whether or not to issue any licenses authorizing exports of equipment to a plant such as Kama." Letter to writer from Rauer H. Meyer, director of the Office of Export Control, Department of Commerce, November 12, 1971.

The logical deduction from this official statement is that the findings of the interagency committee are known to and are accepted by the administration in Washington. Inasmuch as licenses for the Kama plant nevertheless have been issued (according to the same letter), we are forced to the conclusion that the administration is knowingly allowing the export to the Soviet Union of U.S. equipment with military potential. At the time of this writing, licenses for the Kama project had been issued to Satra Corporation, Cross Company, Ex-Cell-O Corporation, Swindell-Dressler, and (not confirmed) Giffel Associates, Inc., of Detroit.

This is a speech by Antony C. Sutton, an expert on Western trade with the Soviets. He has written a 3-volume, 1200 page treatise filled with documentation such as the attached chart.

APPENDIX B

Testimony of the Author Before Subcommittee VII of the Platform Committee of the Republican Party at Miami Beach, Florida, August 15, 1972, at 2:30 P.M.

This appendix contains the testimony presented by the author before the Republican Party National Security Subcommittee at the 1972 Miami Beach convention. The author's appearance was made under the auspices of the American Conservative Union; the chairman of the subcommittee was Senator John Tower of Texas.

Edith Kermit Roosevelt subsequently used this testimony for her syndicated column in such newspapers as the *Union Leader* (Manchester, N.H.). Both major wire services received copies from the American Conservative Union; they were not distributed. Congressman John G. Schmitz then arranged for duplicate copies to be hand-delivered to both UPI and AP. The wire services would not carry the testimony although the author is an internationally known academic researcher with three

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books published at Stanford University, and a forthcoming book from the U.S. Naval Institute.

The testimony was later reprinted in full in *Human Events* (under the title of "The Soviet Military-Industrial Complex") and *Review of the News* (under the title of "Suppressed Testimony of Antony C. Sutton"). It was also reprinted and extensively distributed throughout the United States by both the American party and the Libertarian party during the 1972 election campaign.

The following is the text of this testimony as it was originally presented in Miami Beach and made available to UPI and AP:

The Soviet Military-Industrial Complex

The information that I am going to present to you this afternoon is known to the Administration.

The information is probably *not* known to the Senator from South Dakota or his advisers. And in this instance ignorance may be a blessing in disguise.

I am not a politician. I am not going to tell you what you want to hear. My job is to give you facts. Whether you like or dislike what I say doesn't concern me.

I am here because I believe—and Congressman Ashbrook believes—that the American public should have these facts.

I have spent ten years in research on Soviet technology. What it is—what it can do—and particularly where it came from. I have published three books and several articles summarizing the work.

It was privately financed. But the results have been available to the Government. On the other hand I have had major difficulties with U.S. Government censorship.

I have 15 minutes to tell you about this work.

In a few words: there is no such thing as Soviet technology.

Almost all—perhaps 90-95 percent—came directly or indirectly from the United States and its allies. In effect the United States and the NATO countries have built the Soviet

Union. Its industrial *and* its military capabilities. This massive construction job has taken 50 years. Since the Revolution in 1917. It has been carried out through trade and the sale of plants, equipment and technical assistance.

Listening to Administration spokesmen—or some newspaper pundits—you get the impression that trade with the Soviet Union is some new miracle cure for the world's problems.

That's not quite accurate.

The idea that trade with the Soviets might bring peace goes back to 1917. The earliest proposal is dated December 1917—just a few weeks after the start of the Bolshevik Revolution. It was implemented in 1920 while the Bolsheviks were still trying to consolidate their hold on Russia. The result was to guarantee that the Bolsheviks held power: they needed foreign supplies to survive.

The history of our construction of the Soviet Union has been blacked out—much of the key information is still classified—along with the other mistakes of the Washington bureaucracy.

Why has the history been blacked out?

Because 50 years of dealings with the Soviets has been an economic success for the USSR and a political failure for the United States. It has not stopped war, it has not given us peace.

The United States is spending \$80 billion a year on defense against an enemy built by the United States and West Europe.

Even stranger, the U.S. apparently wants to make sure this enemy remains in the business of being an enemy.

Now at this point I've probably lost some of you. What I have said is contrary to everything you've heard from the intellectual elite, the Administration, and the business world, and numerous well-regarded Senators—just about everyone.

Let me bring you back to earth.

First an authentic statement. It's authentic because it was part of a conversation between Stalin and W. Averell Harriman. Ambassador Harriman has been prominent in Soviet trade since the 1930's and is an outspoken supporter of yet more trade. This is what Ambassador Harriman reported back to the State Department at the end of World War II:

"Stalin paid tribute to the assistance rendered by the United States to Soviet industry before and during the War. Stalin* said that about two-thirds of all the large industrial enterprises in the Soviet Union has been built with the United States' help or technical assistance."

I repeat: "two-thirds of all the large industrial enterprises in the Soviet Union had been built with the United States' help or technical assistance."

Two-thirds.

Two out of three.

Stalin could have said that the other one-third of large industrial enterprises were built by firms from Germany, France, Britain and Italy.

Stalin could have said also that the tank plants, the aircraft plants, the explosive and ammunition plants originated in the U.S.

That was June 1944. The massive technical assistance continues right down to the present day.

Now the ability of the Soviet Union to create any kind of military machine, to ship missiles to Cuba, to supply arms to North Vietnam, to supply arms for use against Israel—all this depends on its domestic industry.

In the Soviet Union about three-quarters of the military budget goes on purchases from Soviet factories.

This expenditure in Soviet industry makes sense. No Army has a machine that churns out tanks. Tanks are made from alloy steel, plastics, rubber and so forth. The alloy steel, plastics and rubber are made in Soviet factories to military specifications. Just like in the United States.

Missiles are not produced on missile-making machines. Missiles are fabricated from aluminum alloys, stainless steel, electrical wiring, pumps and so forth. The aluminum, steel, copper wire and pumps are also made in Soviet factories.

In other words the Soviet military gets its parts and materials

* He, in original.

from Soviet industry. There is a Soviet military-industrial complex just as there is an American military-industrial complex.

This kind of reasoning makes sense to the man in the street. The farmer in Kansas knows what I mean. The salesman in California knows what I mean. The taxi driver in New York knows what I mean. But the policy makers in Washington do not accept this kind of common sense reasoning, and never have done.

So let's take a look at the Soviet industry that provides the parts and the materials for Soviet armaments: the guns, tanks, aircraft.

The Soviets have the largest iron and steel plant in the world. It was built by McKee Corporation. It is a copy of the U.S. Steel plant in Gary, Indiana.

All Soviet iron and steel technology comes from the U.S. and its allies. The Soviets use open hearth, American electric furnaces, American wide strip mills, Sendzimir mills and so on—all developed in the West and shipped in as peaceful trade.

The Soviets have the largest tube and pipe mill in Europe—one million tons a year. The equipment is Fretz-Moon, Salem, Aetna Standard, Mannesman, etc. Those are not Russian names.

All Soviet tube and pipe making technology comes from the U.S. and its allies. If you know anyone in the space business ask them how many miles of tubes and pipes go into a missile.

The Soviets have the largest merchant marine in the world—about 6,000 ships. I have the specifications for each ship.

About two-thirds were built outside the Soviet Union.

About four-fifths of the engines for these ships were also built outside the Soviet Union.

There are no ship engines of Soviet design. Those built *inside* the USSR are built with foreign technical assistance. The Bryansk plant makes the largest marine diesels. In 1959, the Bryansk plant made a technical assistance agreement with Burmeister & Wain of Copenhagen, Denmark, (a NATO ally), approved as peaceful trade by the State Dept. The ships that carried Soviet missiles to Cuba ten years ago used these same Burmeister and Wain engines. The ships were in the POLTAVA

class. Some have Danish engines made in Denmark and some have Danish engines made at Bryansk in the Soviet Union.

About 100 Soviet ships are used on the Haiphong run to carry Soviet weapons and supplies for Hanoi's annual aggression. I was able to identify 84 of these ships. None of the main engines in these ships was designed and manufactured inside the USSR.

All the larger and faster vessels on the Haiphong run were built outside the USSR.

All shipbuilding technology in the USSR comes directly or indirectly from the U.S. or its NATO allies.

Let's take one industry in more detail: motor vehicles.

All Soviet automobile, truck and engine technology comes from the West: chiefly the United States. In my books I have listed each Soviet plant, its equipment and who supplied the equipment. The Soviet military has over 300,000 trucks—all from these U.S. built plants.

Up to 1968 the largest motor vehicle plant in the USSR was at Gorki. Gorki produces many of the trucks American pilots see on the Ho Chi Minh trail. Gorki produces the chassis for the GAZ-69 rocket launcher used against Israel. Gorki produces the Soviet jeep and half a dozen other military vehicles.

And Gorki was built by the Ford Motor Company and the Austin Company—as peaceful trade.

In 1968 while Gorki was building vehicles to be used in Vietnam and Israel further equipment for Gorki was ordered and shipped from the U.S.

Also in 1968 we had the so-called "FIAT deal"—to build a plant at Volgograd three times bigger than Gorki. Dean Rusk and Walt Rostow told Congress and the American public this was peaceful trade—the FIAT plant could not produce military vehicles.

Don't let's kid ourselves. *Any* automobile manufacturing plant can produce military vehicles. I can show anyone who is interested the technical specification of a proven military vehicle (with cross-country capability) using the same capacity engine as the Russian FIAT plant produces.

The term "FIAT deal" is misleading. FIAT in Italy doesn't make automobile manufacturing equipment—FIAT plants in Italy have U.S. equipment. FIAT *did* send 1,000 men to Russia for erection of the plant—but over half, perhaps well over half, of the equipment came from the United States. From Gleason, TRW of Cleveland and New Britain Machine Co.

So in the middle of a war that has killed 46,000 Americans (so far) and countless Vietnamese with Soviet weapons and supplies, the Johnson Administration doubled Soviet auto output.

And supplied false information to Congress and the American public.

Finally, we get to 1972 under President Nixon.

The Soviets are receiving now—today, equipment and technology for the largest heavy truck plant in the world: known as the Kama plant. It will produce 100,000 heavy ten-ton trucks per year—that's more than ALL U.S. manufacturers put together.

This will also be the largest plant in the world, *period*. It will occupy 36 square miles.

Will the Kama truck plant have military potential?

The Soviets themselves have answered this one. The Kama truck will be 50 per cent more productive than the ZIL-130 truck. Well, that's nice, because the ZIL series trucks are standard Soviet army trucks used in Vietnam and the Middle East.

Who built the ZIL plant? It was built by the Arthur J. Brandt Company of Detroit, Michigan.

Who's building the Kama truck plant? That's classified "secret" by the Washington policy makers. I don't have to tell you why.

The Soviet T-54 tank is in Vietnam. It was in operation at Kontum, An Loc, and Hue a few weeks ago. It is in use today in Vietnam. It has been used against Israel.

According to the tank handbooks the T-54 has a Christie type suspension. Christie was an American inventor.

Where did the Soviets get a Christie suspension? Did they steal it?

No, sir! They bought it. They bought it from the U.S. Wheel Track Layer Corporation.

However this Administration is apparently slightly more honest than the previous Administration.

Last December I asked Assistant Secretary Kenneth Davis of the Commerce Department (who is a mechanical engineer by training) whether the Kama trucks would have military capability. In fact I quoted one of the Government's own inter-agency reports. Mr. Davis didn't bother to answer but I did get a letter from the Department and it was right to the point. Yes! we know the Kama truck plant has military capability, we take this into account when we issue export licenses.

I passed these letters on to the press and Congress. They were published.

Unfortunately for my research project, I also had pending with the Department of Defense an application for declassification of certain files about our military assistance to the Soviets.

This application was then abruptly denied by DOD.

It will supply military technology to the Soviets but gets a little uptight about the public finding out.

I can understand that.

Of course, it takes a great deal of self confidence to admit you are sending factories to produce weapons and supplies to a country providing weapons and supplies to kill Americans, Israelis and Vietnamese. In writing. In an election year, yet.

More to the point—by what authority does this Administration undertake such policies?

Many people—as individuals—have protested our suicidal policies. What happens? Well, if you are in Congress—you probably get the strong arm put on you. The Congressman who inserted my research findings into the Congressional Record suddenly found himself with primary opposition. He won't be in Congress next year.

If you are in the academic world—you soon find it's OK to protest U.S. assistance to the South Vietnamese but never, never protest U.S. assistance to the Soviets. Forget about the Russian academics being persecuted—we mustn't say unkind things about the Soviets.

If you press for an explanation what do they tell you?

First, you get the Fulbright line. This is peaceful trade. The Soviets are powerful. They have their own technology. It's a way to build friendship. It's a way to a new world order.

This is demonstrably false.

The Soviet tanks in An Loc are not refugees from the Pasadena Rose Bowl Parade.

The "Soviet" ships that carry arms to Haiphong are not peaceful. They have weapons on board, not flower children or Russian tourists.

Second, if you don't buy that line you are told, "The Soviets are mellowing." This is equally false.

The killing in Israel and Vietnam with Soviet weapons doesn't suggest mellowing, it suggests premeditated genocide. Today—*now*—the Soviets are readying more arms to go to Syria. For what purpose? To put in a museum?

No one has ever presented evidence, hard evidence that trade leads to peace. Why not? Because there is no such evidence. It's an illusion.

It is true that peace leads to trade. But that's not the same thing. You first need peace, then you trade. That does not mean if you trade you will get peace.

But that's too logical for the Washington policy makers and it's not what the politicians and their backers want anyway.

Trade with Germany doubled before World War II. Did it stop World War II?

Trade with Japan increased before World War II. Did it stop World War II?

What was in this German and Japanese trade? The same means for war that we are now supplying the Soviets. The Japanese Air Force after 1934 depended on U.S. technology. And much of the pushing for Soviet trade today comes from the same groups that were pushing for trade with Hitler and Tojo 35 years ago.

The Russian Communist Party is not mellowing. Concentration camps are still there. The mental hospitals take the overload. Persecution of the Baptists continues. Harassment of Jews continues, as it did under the Tsars.

The only mellowing is when a Harriman and a Rockefeller get together with the bosses in the Kremlin. That's good for business but it's not much help if you are a G.I. at the other end of a Soviet rocket in Vietnam.

I've learned something about our military assistance to the Soviets.

It's just not enough to have the facts—these are ignored by the policy makers.

It's just not enough to make a common sense case—the answers you get defy reason.

Only one institution has been clearsighted on this question. From the early 1920's to the present day only one institution has spoken out. That is the AFL-CIO.

From Samuel Gompers in 1920 down to George Meany today, the major unions have consistently protested the trade policies that built the Soviet Union.

Because union members in Russia lost their freedom and union members in the United States have died in Korea and Vietnam.

The unions know—and apparently care.

No one else cares. Not Washington. Not big business. Not the Republican Party.

And 100,000 Americans have been killed in Korea and Vietnam—by our own technology.

The only response from Washington and the Nixon Administration is the effort to hush up the scandal.

These are things not to be talked about. And the professional smokescreen about peaceful trade continues.

The plain fact—if you want it—is that irresponsible policies have built us an enemy and maintain that enemy in the business of totalitarian rule and world conquest.

And the tragedy is that intelligent people have bought the political double talk about world peace, a new world order and mellowing Soviets.

I suggest that the man in the street, the average taxpayer-voter thinks more or less as I do. You do not subsidize an enemy.

And when this story gets out and about in the United States, it's going to translate into a shift of votes. I haven't met one

man in the street so far (from New York to California) who goes along with a policy of subsidizing the killing of his fellow Americans. People are usually stunned and disgusted.

It requires a peculiar kind of intellectual myopia to ship supplies and technology to the Soviets when they are instrumental in killing fellow citizens.

What about the argument that trade will lead to peace? Well, we've had U.S.-Soviet trade for 52 years. The 1st and 2nd Five Year Plans were built by American companies. To continue a policy that is a total failure is to gamble with the lives of several million Americans and countless allies.

You can't stoke up the Soviet military machine at one end and then complain that the other end came back and bit you. Unfortunately, the human price for our immoral policies is not paid by the policy maker in Washington. The human price is paid by the farmers, the students and working and middle classes of America.

The citizen who pays the piper is not calling the tune—he doesn't even know the name of the tune.

Let me summarize my conclusions:

One: trade with the USSR was started over 50 years ago under President Woodrow Wilson with the declared intention of mellowing the Bolsheviks. The policy has been a total and costly failure. It has proven to be impractical—this is what I would expect from an immoral policy.

Two: we have built ourselves an enemy. We keep that self-declared enemy in business. This information has been blacked out by successive Administrations. Misleading and untruthful statements have been made by the Executive Branch to Congress and the American people.

Three: our policy of subsidizing self-declared enemies is neither rational nor moral. I have drawn attention to the intellectual myopia of the group that influences and draws up foreign policy. I suggest these policies have no authority.

Four: the annual attacks in Vietnam and the war in the Middle East were made possible only by Russian armaments and our past assistance to the Soviets.

Five: this worldwide Soviet activity is consistent with Communist theory. Mikhail Suslov, the party theoretician, recently stated that the current detente with the United States is temporary. The purpose of the detente, according to Suslov, is to give the Soviets sufficient strength for a renewed assault on the West. In other words, when you've finished building the Kama plant and the trucks come rolling off—watch out for another Vietnam.

Six: internal Soviet repression continues—against Baptists, against Jews, against national groups and against dissident academics.

Seven: Soviet technical dependence is a powerful instrument for world peace if we want to use it.

So far it's been used as an aid-to-dependent-Soviets welfare program. With about as much success as the domestic welfare program.

Why should they stop supplying Hanoi? The more they stoke up the war the more they get from the United States.

One final thought.

Why has the war in Vietnam continued for four long years under this Administration?

With 15,000 killed under the Nixon Administration?

We can stop the Soviets and their friends in Hanoi anytime we want to.

Without using a single gun or anything more dangerous than a piece of paper or a telephone call.

We have Soviet technical dependence as an instrument of world peace. The most humane weapon that can be conceived.

We have always had that option. We have never used it.

APPENDIX C

Specifications of the Ninety-six Soviet Ships Identified Transporting Weapons and Supplies to North Vietnam, 1966-1971

ENGINE DATA

Name of Soviet ship	Gross Registered Tonnage	Soviet Register No.	HULL CONSTRUCTION		Type of Engine	Brake Horsepower (b.h.p.)	Western-Design Origin and Place of Manufacture	Model No.
			Date	Place				
1. <i>Ala-Tau</i>	7,153	127	1943	United States	Steam	—	United States	—
2. <i>Aleksandr Grich</i>	10,741	4753	—	Yugoslavia	(Diesel)	—	Yugoslavia under Burmeister & Wain license	—
3. <i>Amursk</i>	3,170	216	1960	USSR	Diesel	2,000	Skoda, Czechoslovakia	(430 series)
4. <i>Anapka</i>	3,330	225	1963	Finland	Diesel	2,900	A/S Burmeister & Wain, Denmark	550-VT2BF-110
5. <i>Aniva</i>	3,360	250	1963	Finland	Diesel	2,900	A/S Burmeister & Wain, Denmark	550-VT2BF-110
6. <i>Argus</i>	829	277	1961	USSR	Diesel	1,000	Alco (U.S.) design in USSR	D 50
7. <i>Arkhangel'sk</i>	5,659	302	1953	Finland	Diesel	4,000	Maschinenfabrik Augsburg-Nürnberg A.G., West Germany	K7Z 78/140
8. <i>Arktika</i>	2,900	285	1936	United Kingdom	Steam	—	United Kingdom	—
9. <i>Bakuriani</i>	—	—	1943	(Not identified—probably U.S. Lend-Lease)				
10. <i>Balashikha</i>	10,985		(Not identified)					
11. <i>Baltiysk</i>	5,585	378	1955	Finland	Diesel	4,000	Maschinenfabrik Augsburg-Nürnberg A.G., West Germany	K7Z 78/140
12. <i>Batumi</i>	6,236	404	1931	Denmark	Diesel	—	A/S Burmeister & Wain, Denmark	674-VT2BF-150
13. <i>Baymak</i>	795		(Not identified)					
14. <i>Belgorod Dnestrovskiy</i>	11,011	4776	1965	USSR	Diesel	7,000	Bryansk, USSR under Burmeister & Wain license	774-VT2BF-160
15. <i>Berezovka</i>	10,996	5450	1967	USSR	Diesel	9,000	Bryansk, USSR under Burmeister & Wain license	674-VT2BF-160
16. <i>Biysk</i>	10,684	5147	1964	Denmark	Diesel	—	A/S Burmeister & Wain, Denmark	874-VT2BF-160
17. <i>Bratstvo</i>	12,285	5154	1963	USSR	Steam	13,000	Sulzer Gebrüder, Switzerland	—

ENGINE DATA

Name of Soviet ship	Gross Registered Tonnage	Soviet Register No.	HULL CONSTRUCTION		Type of Engine	Brake Horsepower (b.h.p.)	Western-Design Origin and Place of Manufacture		Model No.
			Date	Place					
18. <i>Brasov</i>			(Identified as Rumanian)						
19. <i>Braslav</i>	3,170	550	1961	USSR	Diesel	2,000	Skoda, Czechoslovakia	(430 series)	
20. <i>Bryanskiy Rabochiy</i>	11,089	569	1964	USSR	Diesel	7,000	Bryansk, USSR under Burmeister & Wain license	774-VT2BF-160	
21. <i>Buguruslan</i>	8,229	577	1958	USSR	Diesel	2,000	Skoda, Czechoslovakia	(430 series)	
22. <i>Chapayevsk</i>	2,603	4594	1957	Poland	Steam	2,000	Poland, under Sulzer license	—	
23. <i>Chelyabinsk</i>	3,359	4602	1960	East Germany	Diesel	—	Görlitzer, East Germany	—	
24. <i>Divnogorsk</i>	8,843	974	1961	Poland	Diesel	7,800	Holland, under Sulzer license	—	
25. <i>Dmitriy Guliya</i>	10,741	4846	—	Yugoslavia	(Not identified—probably B & W)				
26. <i>Galich</i>	1,248	802	1963	Hungary	Diesel	1,000	Lang, Hungary	—	
27. <i>Glukhov</i>	1,248	850	1963	Hungary	Diesel	1,600	Lang, Hungary	—	
28. <i>Gornoaltaysk</i>	3,725	878	1963	East Germany	Diesel	4,000	East Germany, under M.A.N. license	K6Z 57/80	
29. <i>Ignatiy Sergeyev</i>			(Not identified)						
30. <i>Ingur</i>	4,084	1190	1961	West Germany	Diesel	7,250	Maschinenfabrik Augsburg-Nürnberg A.G., West Germany	K8Z 70/120	
31. <i>Ivan Babushkin</i>	1,700	1132	1956	Belgium	Diesel	4,560	Sulzer Gebruder, Switzerland	RD-56	
32. <i>Izhma</i>	3,357	1158	1959	East Germany	Diesel	—	Görlitzer, East Germany	—	
33. <i>Kamchatka</i>	3,725	1265	1964	East Germany	Diesel	4,000	East Germany, under M.A.N. license	K6Z 57/80	
34. <i>Kapitan Vislagovskiy</i>			(Not identified)						
35. <i>Kapitan Yeslobokov</i>			(Not identified)						
36. <i>Kaunas</i>	8,229	1329	1956	USSR	Diesel	4,000	Skoda design made in USSR	(430 series)	
37. <i>Kirovsk</i>	5,518	1364	1957	Finland	Diesel	6,300	Finland, under Sulzer license	—	
38. <i>Komsomol</i>	8,229	1422	1957	USSR	Diesel	4,000	Skoda design made in USSR	(430 series)	
39. <i>Komsomolets Ukrainy</i>	8,229	1428	1959	USSR	Diesel	4,000	Skoda design made in USSR	(430 series)	
40. <i>Kosmonaut</i>	10,658	1454	1963	Denmark	Diesel	12,600	A/S Burmeister & Wain, Denmark	684-VT2BF-180	
41. <i>Kostroma</i>	8,299	1459	1955	USSR	Diesel	4,000	Skoda, Czechoslovakia	(430 series)	
42. <i>Krasnopolye</i>			(Not identified)						
43. <i>Kura</i>	3,382	1543	1919	United States	Steam	—	United States	—	
44. <i>Kuibyshev</i>	6,403	1535	1919	United States	Steam	—	Hoover, Canada	—	
45. <i>Lazarev</i>	3,359	1562	1960	East Germany	Diesel	—	Görlitzer, East Germany	—	
46. <i>Leninogorsk</i>	9,935	1600	1958	Poland	Diesel	8,000	Fiat, Italy	—	
47. <i>Magnitogorsk</i>	6,339	1668	1932	United Kingdom	Steam	—	Central, United Kingdom	—	

Name of Soviet ship	Gross Registered Tonnage	Soviet Register No.	HULL CONSTRUCTION		Type of Engine	Brake Horsepower (b.h.p.)	ENGINE DATA		Model No.
			Date	Place			Western-Design Origin and Place of Manufacture		
48. <i>Malaya Vishera</i>	3,114	1680	1963	USSR	Diesel	2,000	Skoda, Czechoslovakia	(430 series)	
49. <i>Manych</i>	1,083	1686	1949	Hungary	Diesel	—	United States	Lend-Lease	
50. <i>Medin (Medyn)</i>	10,107	—	1965	Poland	Diesel	9,000	Poland, under Sulzer license	—	
51. <i>Metallurg Kurako</i>	12,285	1780	1960	USSR	Steam	13,000	USSR	—	
52. <i>Mezhdurechensk</i>	10,107	4927	1965	Poland	Diesel	9,000	Poland, under Sulzer license	—	
53. <i>Mikhail Frunze</i>	6,799	1818	1922	Germany	Steam	—	Krupp, Germany	—	
54. <i>Michurin</i>	4,441	1821	1923	United Kingdom	Diesel	—	United States	Lend-Lease	
55. <i>Minsk</i>	8,430	1799	1963	Poland	Diesel	9,600	Poland, under Sulzer license	RD-76	
56. <i>Molodechno</i>	8,229	1836	1956	USSR	Diesel	4,000	Skoda design made in USSR	(430 series)	
57. <i>Molodogvardekets</i>	647	—	1960	Poland	Steam	—	Poland, under Sulzer license	—	
58. <i>Mozdok</i>	10,107	1831	1964	Poland	Diesel	9,600	Poland, under Sulzer license	RD-76	
59. <i>Nagayev</i>	3,359	1905	1960	East Germany	Steam	—	Görlitzer, East Germany	—	
60. <i>Netushe</i>			(Not identified)						
61. <i>Nikolay Chernyshevskiy</i>	1,849	1972	1955	Belgium	Diesel	4,560	Sulzer Gebruder, Switzerland	RD-56	
62. <i>Nikolay Ostrovskiy</i>	1,849	1969	1955	Belgium	Diesel	4,560	Sulzer Gebruder, Switzerland	RD-56	
63. <i>Nikolayevsk</i>	4,870	1961	1962	East Germany	Diesel	4,000	East Germany, under M.A.N. license	—	
64. <i>Orekhov</i>	11,087	2069	1963	Japan	Diesel	12,000	Japan, under Burmeister & Wain license	874-VT2BF-160	
65. <i>Partizanskaya Slava</i>	10,881	5492	1967	USSR	Diesel	9,000	Bryansk, USSR under Burmeister & Wain license	674-VT2BF-160	
66. <i>Pavlovsk</i>	11,089	2127	1964	USSR	Diesel	9,000	Bryansk, USSR under Burmeister & Wain license	774-VT2BF-160	
67. <i>Perekop</i>	11,089	2172	1963	USSR	Diesel	8,750	Bryansk, USSR under Burmeister & Wain license	774-VT2BF-160	
68. <i>Polotsk</i>	9,500	2232	1963	USSR	Diesel	8,750	Bryansk, USSR under Burmeister & Wain license	674-VT2BF-160	
69. <i>Pos'yet</i>	3,455	2251	1961	East Germany	Diesel	—	Maschinenfabrik Augsburg-Nürnberg A.G., West Germany	K6Z 57/80	
70. <i>Poti</i>	8,229	2253	1954	USSR	Diesel	4,000	Skoda design made in USSR	(430 series)	
71. <i>Pridneprovsk</i>	11,089	2268	1964	USSR	Diesel	8,750	Bryansk, USSR under Burmeister & Wain license	774-VT2BF-160	
72. <i>Pula</i>	11,287	2360	1964	Yugoslavia	Diesel	—	Yugoslavia under Burmeister & Wain license	874-VT2BF-160	
73. <i>Revda</i>	3,359	2394	1959	East Germany	Diesel	—	Görlitzer, East Germany	—	

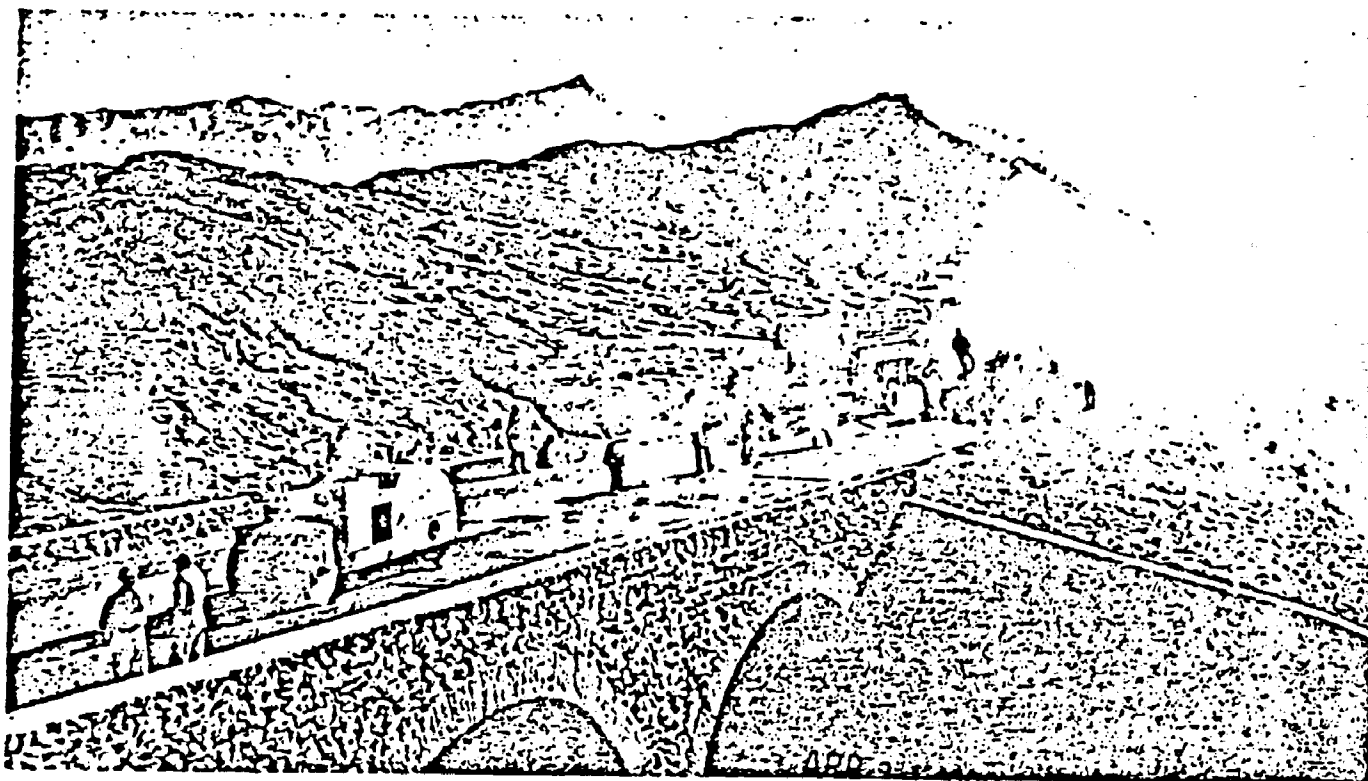
Name of Soviet ship	Gross Registered Tonnage	Soviet Register No.	HULL CONSTRUCTION		Type of Engine	Brake Horsepower (b.h.p.)	ENGINE DATA	
			Date	Place			Western-Design Origin and Place of Manufacture	
							Model No.	
74. <i>Samuil Marshak</i>	10,409	—	1966	Poland	Diesel	9,600	Poland, under Sulzer license	RD-76
75. <i>Saransk</i>	3,359	3018	1959	East Germany	Diesel	—	Görlitzer, East Germany	—
76. <i>Sevastopol</i>	7,176	3052	1943	United States	Steam	2,500	Iron Foundry, United States	Lend-Lease
77. <i>Simferopol</i>	9,344	3119	1968	Poland	Diesel	9,600	Poland, under Sulzer license	RD-76
78. <i>Sinegorsk</i>	3,359	3122	1960	East Germany	Diesel	—	Görlitzer, East Germany	—
79. <i>Solnechnogorsk</i>	9,935	3218	1958	Poland	Diesel	—	Fiat, Italy	—
80. <i>Sovetsk</i>	9,344	3193	1962	Poland	Diesel	9,600	Poland, under Sulzer license	RD-76
81. <i>Suchan</i>	7,176	4301	1943	United States	Steam	—	Hendy, United States	Lend-Lease
82. <i>Tashkent</i>	6,456	4337	1914	United States	Diesel	—	Maryland, United States	Lend-Lease
83. <i>Tungus</i>	7,194	4412	1943	United States	Diesel	—	Williamette, United States	Lend-Lease
84. <i>Turkistan</i>	3,359	4420	1959	East Germany	Diesel	—	Görlitzer, East Germany	—
85. <i>Timlat</i>	1,309	—	1960	Hungary	Diesel	1,000	Lang, Hungary	—
86. <i>Uritsk</i>	5,628	4481	1958	East Germany	Diesel	4,700	East Germany, under M.A.N. license	K7Z 70/120
87. <i>Ussuriysk</i>	9,501	4487	1960	Denmark	Diesel	—	A/S Burmeister & Wain, Denmark	874-VT2BF-160
88. <i>Ustilug</i>	5,628	4488	1960	East Germany	Diesel	4,700	East Germany, under M.A.N. license	K7Z 70/120
89. <i>Vaykan</i>			(Not identified)					
90. <i>Vereya (Vereia)</i>	9,437	—	1965	East Germany	Diesel	4,700	East Germany, under M.A.N. license	K7Z 70/120
91. <i>Vladivostok</i>	4,722	—	1960	USSR	Diesel	8,300	East Germany, under M.A.N. license	K6Z 57/80
92. <i>Voykov</i>	7,176	—	1943	United States	Diesel	—	Hendy, United States	Lend-Lease
93. <i>Yasnogorsk</i>			(Not identified)					
94. <i>Yasnomorsk</i>	3,359	4757	1960	East Germany	Diesel	—	Görlitzer, East Germany	—
95. <i>Zaysan</i>	3,359	1073	1960	East Germany	Diesel	—	Görlitzer, East Germany	—
96. <i>Zeya</i>	1,248	1107	1962	Hungary	Diesel	1,000	Lang, Hungary	—

Sources: Grateful acknowledgement is made to Joseph Gwyer of Washington, D.C., for information on Soviet ships used on the Haiphong run.

Specifications taken from: Registr Soiuza SSR. *Dopolneniia i izmeneniia k registrovoi knige morskikh sudov soiuz SSR, 1964-1965*. No. 1. Moscow, July 1966.

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International



U.S. Army Corps of Engineers and Afghan laborers pave a highway to the Khyber Pass.

Rugged Afghan Road Jobs Fi



U.N. TEAM surveys primitive conditions

Completion next year of 647 miles of improved highways in Afghanistan will not only boost that country's rather primitive transportation system, but will close major gaps in the Asian highway network.

Construction of the Afghan roads is a result of technical and financial assistance programs established by the United States and the Soviet Union. Similar aid programs on remaining sub-standard sections of the Asian Highway soon will yield a reliable all-weather route linking Vietnam, Malaysia, and Indonesia in the Far East, to Iraq in Southwest Asia (see progress map, p. 37).

- Three Afghan benefactors—Currently, with technical assistance from the U. S. Corps of Engineers, Afghan laborers are completing a section of the A-1 Asian Highway priority route that runs from the capital city of Kabul in eastern Afghanistan (see map, right) southwest to Kandahar.

Picking up where the U. S.-aided road leaves off, the Soviet Union has recently completed a section from Kandahar northwest to Herat. Included in the U. S. S. R. roadbuilding program is a concrete highway that crosses the

Kabul to the River Oxus on the Afghan-U. S. S. R. border. It contains a section of highway ascending the Salang Pass that is extremely costly and said to have the world's highest highway tunnel.

In addition to the U. S. and U. S. S. R. highway work in Afghanistan, the United Nations Economic Commission for Asia and the Far East (ECAFE) is proceeding next year with stage two of a preinvestment survey to establish the economic feasibility of building a direct east-west route between Kabul and Herat, paralleling the alignment of a 5,000-year-old caravan route. This route is contending with the U. S. and U. S. S. R.-built highway in Afghanistan as an A-1 priority route in the Asian highway system.

- Awe-inspiring job—The last remaining sections of the 22-ft-wide, 647-mile highway from Kabul through Kandahar to Herat—a route once traveled by Marco Polo, Alexander the Great, and Genghis Khan—will be completed in 1967 under Soviet and U. S. bilateral aid programs. The U. S. built section is 300 miles long, constructed of asphalt; it has a separate track for camels and will cost \$33,777,000, or \$113,000 per mile. The U. S. S. R. built concrete

Export-Import Bank OKs Loan to Russia

\$180 Million U.S. Deal Seen Stirring Congress Furore

From the Washington Post

WASHINGTON—The U.S. Export-Import Bank, ending months of delay brought about by fear of congressional disfavor, Tuesday approved a \$180 million loan to the Soviet Union—the largest ever extended to Moscow by the bank.

The bank credit will help finance a \$400 million deal involving American supplies for eight ammonia fertilizer factories, chemical storage facilities, pumping stations, railroad tank cars and a 1,200-mile pipeline for the Soviet Union.

The action is sure to raise controversy on Capitol Hill, where powerful groups in both houses are seeking to curtail government lending to the Soviet Union.

The bank's board of directors acted Tuesday morning after President Nixon intervened personally to break the indecision at the bank. Some Administration officials confirmed last week that the credit had been held up to avoid antagonizing Congress, which is now considering a measure to extend the charter of the bank past its June 30 expiration.

There were some indications from

officials that the Administration was now satisfied that the project had sufficient support in Congress.

However, there was no explanation for the timing of the board's action. Some had felt the President might wait to announce final approval of the loan until his expected visit to Moscow next month.

In a letter to bank chairman William J. Casey, received Monday, Mr. Nixon said that the project would result in balance-of-payments and trade benefits to the United States, would alleviate American fertilizer and energy shortages and would contribute to world food needs.

He added that the credit "makes exactly the kind of contribution to the national interest which I had envisioned when I made the determination on Oct. 18, 1972, that it is in the national interest for the export-import bank to finance U.S. exports to the Soviet Union."

A preliminary loan commitment for the highly complex project, which also involves a barter-type exchange of chemical fertilizers between the two countries starting in 1978, was granted by the bank last year.

In the last few weeks, Soviet officials have warned that if the United States did not go through with the promised credits, it would have to look to Western Europe and Morocco to fulfill its needs.

"It got pretty frantic," a bank spokesman said. "We had nothing but calls from all these (American) people who could lose their contracts (with the Russians) if the loan was not approved."

In Congress, the credit has become embroiled in the Administration bill to extend the charter of the bank another four years and expand its lending authority from \$20 billion to \$30 billion.

Hearings on the bill have been completed in both houses. However, opponents of American economic concessions are seeking to block or limit further concessions as the price for approving the bank's charter.

Among them are supporters of amendments to the Administration's trade bill which would prohibit the government credits or nondiscriminatory tariff treatment for the Soviet Union unless it permits free emigration. The main concern is for Soviet Jews seeking to move to Israel.

Last year, the bank approved a \$153 million loan for purchase of equipment by the Russians for their Kama River truck plant.

The fertilizer deal was sponsored, with the support of the Administration, by Occidental Petroleum Corp.

However, Occidental's direct involvement does not begin until around 1978, when it starts to trade superphosphate acid fertilizer produced in this country for nitrogen fertilizer produced in the new Soviet plants built partly with American equipment.

According to this barter arrangement, the Soviet

Union will supply 1.5 million metric tons of ammonia, 1 million tons of urea and 1 million tons of potash in exchange for 1 million tons of superphosphoric acid refined from Occidental's phosphate holdings in Florida.

Occidental has announced it will spend about half a billion dollars in the mining of the phosphate and in constructing ships to transport the nitrogen fertilizers.

A number of American industries have provisional contracts to help build the fertilizer plants in the natural gas fields around Kuibyshev, on the banks of the Volga River.

A 1,200-mile pipeline from there to the Black Sea port of Odessa will transport the chemicals.

The United States now supplies only 40% of its own total ammonia and urea needs.

American commercial banks are providing another \$180 million dollars in credits, without government guarantee, and the Soviet Union will make a cash down payment of the remaining \$40 million dollars.

Ridiculous 'Loan' To Soviet Russia

LOS ANGELES EXAMINER
1/11/74

Ever since the Export-Import Bank was created in 1945, political and economic conservatives have been critical of its authority and operation. Now, with the bank expected to approve a low-interest, multi-million dollar trade loan to the Soviet Union, even liberal congressmen are speaking out against it.

The Export-Import Bank's functions are to encourage and support U.S. industries abroad in support of world trade. It does this essentially by financing American factories, refineries, etc., built in foreign countries, and by insuring defaulted foreign loans.

Incredible as it sounds, the bank is authorized to make (to a limit of \$2 billion) loans that do not even meet a test of reasonable assurance of repayment. Since the bank's \$20 billion lending fund now is available to any and all Communist countries, this is tantamount to insuring support to an alien nation's economy even when it might not be repaid.

The present focus of irritation over the bank is its expected quick approval of \$49.5 million in government loans to the Soviet Union at a ridiculously low 6 per cent interest — at a time when prime U.S. corporation borrowers must pay at least 9 per cent interest (often more), when thousands of American would-be homebuyers cannot obtain mortgage money at any interest rate, and when thousands of American workmen recently have been laid off.

The \$49.5 million loan to the Soviets would be spent compensating a few American companies for

developing huge natural gas fields in Siberia. Later the Soviets would sell some of this energy to the U.S., but at a price far above the going natural gas rate.

It is no wonder that some congressmen are perplexed at this Administration wanting to become dependent upon Moscow for even a portion of its energy resources, especially when the Soviets could shut off the gas supply at any time.

Conservative critics doubt that the loans benefit the U.S., or that they ever would be repaid. They remember that only two years ago the U.S. had to "forgive" \$10 billion in World War II lend-lease debts that the Soviet Union made no attempt to pay, even after 30 years. Should Moscow welsh on another loan, American taxpayers once again would be fleeced.

But that is not all. The Soviet gas exploration project eventually could develop into a \$10 billion project, with \$2 billion of it in the form of low-interest American taxpayer "loans."

When Congress reviews pending legislation renewing authorization for the Export-Import Bank, now due to expire on June 30, it had better seriously consider who benefits most from its existence. If the answer is not "the United States" by an overwhelming margin, there is no logical reason for the bank's continued existence.

Meanwhile, an unqualified disapproval of the pending cheap-interest loan to the Soviets is unquestionably in America's best interest.

U.S. Confirms Computer Sales to Russia, China

From Times Wire Services

WASHINGTON—The Ford Administration has approved the sale of modern computer systems to both China and the Soviet Union under "appropriate safeguards," the State Department said Friday.

An official of the Energy Research and Development Administration said the agency had opposed the sales on grounds the computers had military potential.

However, a spokesman for the manufacturer, Control Data Corp. of Minneapolis, said it would be a distortion to suggest the computers would give either country a new military capacity.

Spokesmen for Control Data and the State Department said that the deal included "appropriate safeguards" to ensure that Peking and Moscow use the computer systems only for oil exploration and early detection of earthquakes.

"I approved of the sale of the computers on recommendations of the Department of Defense and the State Department after being assured these particular computers had no relationship to defense," President Ford told reporters in St. Louis.

On that basis, administration officials said, an interagency review approved export licenses for the computers.

The United States has always refused to sell Communist nations equipment with potential military value, and Ford pledged to follow that policy during his last debate with Jimmy Carter.

"Any computer could conceivably have military potential," State Department Spokesman Robert Funseth said. "But the interagency group that reviewed the application was convinced the sales met our national security needs."

The Russians and the Chinese are each buying two Cyber 172 model computers plus associated equipment.

"I can't deny that the computer could be used for nuclear research," said James Bowe, Control Data Corp.'s vice president for corporate relations. "So could a hand-held computer, I suppose."

But Bowe said the Cyber 172 is outmoded for such purposes compared to the much more sophisticated computer systems now used in the U.S. nuclear development program.

The Cyber 172 costs \$4.5 million to \$5 million and has a capacity for 1.4 million instructions per second, compared to the 100 million instructions per second capacity of the Star 100 computer used for U.S. nuclear research.

The Chinese deal has yet to be approved by an international coordinating committee, called COCOM, which numbers Japan and NATO countries among its members and maintains watch on sophisticated technology sales to Communist nations.

The Soviet sale has been approved, the manufacturer said.

Both sales provide for safeguards, in the form of a resident U.S. technician, to prevent the computers from being used for military purposes.

U.S. Repaying Loans Owed by Poland to American Banks

By WILLIAM J. EATON,
Times Staff Writer

WASHINGTON—For months, the Reagan Administration has been using federal funds to repay Polish loans owed to U.S. banks, and the bill for this fiscal year may amount to \$400 million, Deputy Secretary of Agriculture Richard E. Lyng said Monday.

The government repayments were made without asking the banks to declare the Polish government in default, Lyng conceded in a telephone interview.

"They (the Polish authorities) have not been making payments for at least the last half of the last year," Lyng said. "When they don't make a payment, the U.S. Department of Agriculture makes a payment."

A State Department spokesman, however, said the U.S. government will try to collect the amount of its loan payments from Poland later.

The action is certain to be controversial since some U.S. officials regard U.S. repayment of Poland's debt as being at odds with President Reagan's warning that he is considering additional sanctions against Warsaw if the Polish regime does not lift martial law. Other U.S. offi-

Please see LOANS, Page 13

LOANS: U.S. Repaying Poland's Debts

Continued from First Page

cials regard the payments as the best way to collect the debts eventually and to keep pressure on Poland in the meantime to pay.

A default by Poland could place in jeopardy all its estimated \$26 billion in loans by Western banks and governments. The collapse of the whole Polish debt, most of it held by West Europeans, would make the recovery of its economy extremely difficult and drive the Warsaw government even closer to the Soviet Union for support.

Lyng said the U.S. government paid \$60 million to \$70 million a month on guaranteed Polish loans in October, November, December and January—and "we will continue to pay them."

The money is part of \$1.6 billion

loans to the Polish government made or guaranteed by the U.S. Department of Agriculture to finance purchases of American grain.

The decision not to ask American banks to declare Poland in default was described by Lyng as "some legalistic business. I don't understand the significance of it." Other U.S. officials said it was done to "keep the heat" on Poland's military regime and not let it off the hook on other debts owed to U.S. and foreign banks.

"The question of default is still open and is one of a range of options before the U.S. government," State Department spokesman Dean Fischer said. "We intend to make every effort to collect on these debts, and the procedure adopted is the best way to do this."

"The payments due to the private

banks are now owed to the U.S. government, and we intend to act vigorously to secure payment," Fischer said.

Lyng denied a published report that the Agriculture Department made an unannounced emergency change in its regulations to permit the repayments without a declaration of default by the banks.

"We just changed procedures a little bit," Lyng said. "We've been doing that for months."

For years, he said, Poland bought American grain and did not miss a payment to U.S. banks on its government-guaranteed loans.

Sometime last summer, Lyng said, the Polish government did not make its monthly payments, and the U.S. government paid the banks instead.

APPENDIX C

Technical-Assistance Agreements between the Soviet Union and Western Companies, 1929-45

<i>Western Company</i>	<i>Country of Origin</i>	<i>Technical Transfer to Soviet Union</i>
Accounting and Tabulating Machine Co.	United States	Power machines
Akron Rubber Reclaiming Co.	United States	Rubber-plant reclamation; training Soviet nationals
Aktiebolaget Vallenbyggnadsbyran	Sweden	Construction of Svir Dam
Alco Products, Inc. (Div. of American Locomotive)	United States	Petroleum refineries
Allen & Garcia Inc.	United States	Coal mine development
Allgemeine Elektrizitäts Gesellschaft	Germany	Electrical machinery
American Can Co.	United States	Canning processes
Ansaldo	Italy	Shipbuilding
Ansonia Clock Co.	United States	Clocks and watches
Audio-Cinema, Inc.	United States	Sound film technology
Austin Co.	United States	Automobile plant construction; design of Gorki city
Babcock & Wilcox, Inc.	United States	Boiler design
Badger, E. B., & Sons	United States	Wood distillation, oil refineries
Bagley & Sewell Co.	United States	Newsprint manufacture
Baldwin Locomotive Works	United States	Locomotive repair shops
Baltimore & Ohio Railroad	United States	Railroad operations
Birdsboro Steel Foundry & Machine Co.	United States	Hydraulic presses

<i>Western Company</i>	<i>Country of Origin</i>	<i>Technical Transfer to Soviet Union</i>
Birmingham Small Arms Co.	England	Bicycles
Bliss, E. W., Co.	United States	Power-plant design; small arms ammunition
Blom and Kamroth	United States	Meat-packing plants
Boeing Aircraft Co.	United States	Aircraft
Borsig, A.	Germany	Refrigeration technology
Brandt, Arthur J.	United States	Reconstruction of AMO works
British Thomson-Houston Co., Ltd.	United Kingdom	Power stations
Brown-Boveri Co.	Switzerland	Gas blowers; aluminum mill equipment
Brown Instrument Co.	United States	Electrical recording instruments
Brown-Lipe Gear Co.	United States	Gear manufacture for automobile industry
Bucyrus-Erie Co.	United States	Excavating equipment
Budd Manufacturing Co.	United States	1934 auto model change (21S)
Burd Piston Ring Co.	United States	Tractors
Burrell-Mase Engineering Co.	United States	Expansion and management of Grozneft
Casale Ammonia S.A.	Italy	Nitrogen fixation; manufacture of synthetic ammonia
Caterpillar Tractor Co.	United States	Training Soviet nationals
Cellulose de Bourges	France	Chemicals
Chain Belt Co.	United States	Conveyors
Chase, Frank D., Inc.	United States	Design of foundry projects
Cheretti & Tonfani	Italy	Design and construction of conveyors
Chicago Kitchen Co.	United States	Design of community kitchens
Cie de Produits Chimiques et Electrometallurgiques Alais, Troques et Camargue	France	Aluminum
Clark, Wallace, & Co.	United States	Gantt methods
Cleveland Tractor Co.	United States	Training Soviet nationals
Cooper, H. L., & Co., Inc.	United States	Dniepr Dam
Craven Bros. (Manchester), Ltd.	United Kingdom	Special machine tools

<i>Western Company</i>	<i>Country of Origin</i>	<i>Technical Transfer to Soviet Union</i>
Curtiss-Wright Corp.	United States	Aircraft engine manufacturing license
Davy Bros., Ltd.	United Kingdom	Forging manipulators
Deere & Co.	United States	Agricultural equipment
Deilmann Bergbau	Germany	Design of mines at Solikamsk
Demag Aktiengesellschaft	Germany	Manufacture of cranes, hoisting equipment and blooming mills
Deutsche Tiefbohr A-G	Germany	Drilling deep water wells
Deutz Motorenfabrik A-G	Germany	Construction of Deutz diesel engines
Dewey & Almy Chemical Co.	United States	Crab meat containers
Diebold Safe & Lock Co. (Diebold, Inc.)	United States	Watch factory
Disticoque S.A.	France	Coke ovens
Douglas Aircraft Co., Inc.	United States	Aircraft: DC-3
Dow Chemical Co.	United States	Styrene
Dueber-Hampden Watch Co.	United States	Construction and equipment of watch plant
Du Pont, (E.I.) de Nemours & Co.	United States	Synthetic ammonia, nitric acid and fertilizer technology
Eastman Construction Engineering	United States	Construction
Electric Auto-Lite Co.	United States	Electrical equipment in autos and tractors
Elektrokemisk	Norway	Manufacture of Soderberg electrodes
Ericsson, L. M., A/B	Sweden	Telephone equipment
Ex-Cell-O Aircraft and Tool Corp.	United States	Stated by Soviets as agricultural implements
Fairbanks Aviation Corp.	United States	Aircraft manufacture
Farben, I. G.	Germany	Chemicals
Farrel-Birmingham Co., Inc.	United States	Sykes machines
Ferguson, Hardy S., & Co.	United States	Paper-mill technology
Fiat s.p.a.	Italy	Automobiles, aircraft, ships

<i>Western Company</i>	<i>Country of Origin</i>	<i>Technical Transfer to Soviet Union</i>
Ford Motor Co.	United States	Automobile plant construction and auto tire plant
Foster-Wheeler Corp.	United States	Petroleum refineries
Frey Engineering Co.	United States	Iron and steel plants
Frolick & Knupfel	Germany	Design and construction of mines
Gaillard-Parrish	United Kingdom	Sulfuric acid
Gibbs, Harry D.	United States	Chemical processes; phthalic anhydride
Gogan Machine Co.	United States	Automobile bumpers
Goodman Manufacturing Co.	United States	Coal cutters
Graver Corp.	United States	Refineries
Great Northern Telegraph	Denmark	Telegraph operations
Grusonwerk, Friedrich Krupp	Germany	Manufacture of equipment for crushing plants
Hahn, A. W.	United States	Aluminum powder
Harburger, Eisen, and Bronzwerke, A-G	Germany	Manufacture and design of equipment for oil-crushing mills
Heinkel	Germany	Aircraft
Henshien, H. G.	United States	Meat packing plants
Hercules Motor Corp.	United States	Reconstruction of Yaroslavl truck engine plant
Hercules Powder Co.	United States	Nitrocellulose; cotton linters
Hilaturas Casablanco, S.A.	Spain	Coal cutters
Houdry Process Corp.	United States	Catalysts
Humboldt-Deutz Motoren, A-G	Germany	Diesel engines (all sizes)
Imperial Chemical Industries, Ltd.	United Kingdom	Chemical manufacture
International General Electric Co., Inc.	United States	Electrical equipment (all types)
International Harvester Co.	Canada	Agricultural implements
International Harvester Co.	United States	Training Soviet nationals
Irving Air Chute Co., Inc.	United States	Parachutes
Isacco, Vittorio	Italy	Helicopters
Jenkins Co.	United States	Petroleum refineries

<i>Western Company</i>	<i>Country of Origin</i>	<i>Technical Transfer to Soviet Union</i>
Kahn, Albert, Inc.	United States	Supervision of Five-Year Plan design and construction
Kallitt Products, Inc.	United States	Electrical equipment
Karlstad Mechaniska Verkstaden A/B	Sweden	Construction of turbines, Svirstroi
Kohorn, Oskar, and Co.	Germany	Production of artificial silk by viscose process
Koppers Construction Co.	United States	Coke ovens and by-products
Krupp, Friedrich, A.G.	Germany	Manufacture of special grades of steel, cement
Kugellager, Vereinigte	Germany	Ball bearings
La Compagnie Générale de Télégraphie	France	Radios
Lockwood, Greene & Co., Inc.	United States	Textile-plant construction
Loeffler	Czechoslovakia	High-pressure boilers
Longacre Engineering and Construction Co.	United States	Apartment buildings
Lucas & Luick	United States	Gas plants and pipelines
Lummus Co.	United States	Refinery construction
Lurgi Gesellschaft für Chemie und Hüttenwesen m.b.H.	Germany	Sulfuric acid process
Maatschappi	Holland	Saccharification of wood pulp for production of fodder and glucose
Macchi	Italy	Flying boats
Manchu Machine Works	Manchuria	Machine-tool plant
Manchurian Machine Tool	Manchuria	Machine-tool plant
Marietta Manufacturing Co.	United States	Carbon-black plant unit
Marshall & Sons, Ltd.	United Kingdom	Locomotives for lumber industry
Martin, Glenn L., Co.	United States	Bomber design
Maschinen und Bronze-Waren Fabrik A-G	Germany	Machine tools
Maschinenbau A-G	Germany	Manufacture of compressors

<i>Western Company</i>	<i>Country of Origin</i>	<i>Technical Transfer to Soviet Union</i>
Maschinenbau-Anstalt 'Humboldt'	Germany	Installation of concentrator equipment
Maschinenfabrik Augsburg-Nürnberg A-G	Germany	Construction of MAN—Diesel engines, simple 4-cycle motors, simple and double 2-cycle motors with and without compressors, and machines and equipment for cold storage plants
McClintock & Marshall Const. Co.	United States	Building erection for Stalin-grad Tractor Plant
McCormick Co.	United States	Baking-plant design
McDonald Engineering Co.	United States	Industrial plants, cement, elevators
McKee, Arthur G., & Co.	United States	Magnitogorsk iron and steel plant; petroleum refineries
Mechanical Engineering (Chicago)	United States	Meat-packing plants
Merritt Engineering & Sales Co., Inc.	United States	Manufacture of rolled-steel railroad-car wheels
Messer Co. A-G	Germany	Construction of autogenous welding equipment
Metropolitan-Vickers Electrical Co., Ltd.	United Kingdom	Construction of steam turbines; power plants
Midwest Rubber Reclaiming Co.	United States	Assistance in rubber-plant construction; training Soviet nationals
Miller, Max B., and Co.	United States	Petroleum refineries
Moisseiff, Leon S.	United States	Bridge consultation
Multibestos Co.	United States	Design and technical assistance in construction of factory for asbestos products
National Rubber Machinery Co.	United States	Tire-building machines
Newport News Shipbuilding & Dry Dock Co.	United States	Turbine construction
Nickel, Arthur, Co.	United States	Iron-ore mining

<i>Western Company</i>	<i>Country of Origin</i>	<i>Technical Transfer to Soviet Union</i>
Nitrogen Engineering Corp.	United States	Ammonia-fertilizer plant construction and operation
Nobile, General Umberto	Italy	Airships
Nordberg Manufacturing Co.	United States and United Kingdom	Railroad equipment
Oglebay, Norton Co.	United States	Iron-ore mine development
Ohio Locomotive Crane Co.	United States	Operation and servicing of cranes
Oliver Farm Equipment Co.	United States	Tractor plows
Otis Elevator Co.	United States	Moscow subway elevators
Owens Bottle Co.	United States	Bottle-closing patent and machinery for silicate industries
Parke, Davis & Co.	United States	Pharmaceutical products
Passburg, Emil, and Berthold Block	Germany	Design of vacuum plants
Penick & Ford, Ltd., Inc.	United States	Construction of corn production and refining plants
Pennsylvania Railroad	United States	Railroad operating methods
Peterson, Hugo	Germany	Peterson sulfuric acid process
Petroleum Engineering Corp.	United States	Petroleum refineries
Pflanzennamme	Germany	Manufacture of peat products
Polakov, W. N.	United States	Management consultants
Pontiac Engineering Co.	United States	Smelter construction
Power-Gas Corp., Ltd.	United Kingdom	Gas generator plant
Pratt & Whitney Aircraft Co.	United States	Stated by Soviets as agricultural implements
Radio Corporation of America	United States	Exchange of patents and information, radio and TV
Radiore Co.	United States	Prospecting assistance
Remington Rand, Inc.	United States	Office equipment
Republic Aviation Corp.	United States	Aircraft
Richard Bros.	United States	Tractor manufacture

<i>Western Company</i>	<i>Country of Origin</i>	<i>Technical Transfer to Soviet Union</i>
Riedinger Maschinen- und Bronzewarenfabrik A-G	Germany	Metals manufacture
Roberts & Shaefer Co.	United States	Detailed designs and plant drawings Donetz coal trust
Rockwell, W. S., Co.	United States	Furnace technology at Stalingrad
Rosoff Subway Construction Co.	United States	Subway construction (probably not implemented)
Rust Brothers	United States	Rust cotton-picking machine
Safety Mining Co.	United States	Manufacture of CARDOX
Sauerman Bros., Inc.	United States	Equipment operation
Savoia	Italy	Flying boats
Sayer, E. Y., Engineering Corp.	United States	Steam electric plant
Scintilla A-G	Switzerland	Manufacture of magnetoes and ignition equipment
Seabrook, C. F., Co.	United States	Road construction
Seiberling Rubber Co.	United States	Sale of rubber tire plant
Seversky Aircraft Corp.	United States	Aircraft
Sharples Specialty Co.	United States	Petroleum centrifuge equipment
Siemens-Schukert	Germany	Electrical equipment
Smidth, F. L., A/S	Denmark	Cement plants
Smith, C. V., Co., Thetford	Canada	Asbestos milling
Société de Prospection Electrique Procédés, Schlumberger	France	Electrical prospecting for oil
Société Française Anonyme 'Lumière'	France	Manufacture of films
Sociétés du Duralumin	France	Duralumin
Soieries de Strasbourg S.A.	France	Production of artificial silk by viscose process
Southwestern Engineering Co.	United States	Design, construction and operation of metal plants
Sperry Gyroscope Co., Inc.	United States	Marine instruments, bomb sights
Standard Alcohol Co.	United States	Rubber technology
Standard Oil Co. of New York	United States	Operation of Batum refinery: synthetic ethyl alcohol

<i>Western Company</i>	<i>Country of Origin</i>	<i>Technical Transfer to Soviet Union</i>
Stockholms Superfosfat Fabriks Aktiebolaget	Sweden	Construction, equipment, and operation of plant with annual production of 20,000 tons calcium cyanamid and 3,000 tons carbide (Chernorechensk Plant); manufacture of yellow prussiate of potash; construction of equipment and operation of Karabliiss Cyanamid and Carbide Plant
Stuart, James & Cooke, Inc.	United States	Coal industry; grain elevators
Sullivan Machinery Co.	United States	Mining equipment
Sulzer Gebruder A-G	Germany	Construction of 2-cycle Sulzer diesel engines
Swasey, Warner P.	United States	Tractor manufacture
Szepesi, Eugene	United States	Accounting systems in textile mills
Taft, Pierce Mfg. Co.	United States	Manufacturing of tools, jigs, etc.
Telefunken Gesellschaft A-G	Germany	Manufacture of long-distance receiving sets
Thew Shovel Co.	United States	Dragline operation
Timken-Detroit Axle Co.	United States	Automobile industry
Torfplattenwerke A-G	Germany	Construction of plant for manufacture of peat insulation plates
Tube Reducing Co.	United States	Tube mill installations
Union Construction Co.	United States	Drawings and specifications for dredges
Union Switch and Signal Co.	United States	Railroad automatic block signals
United Engineering & Foundry Co.	United States	Hot and cold wide-strip mills in steel and aluminum industries
Universal Oil Products Inc.	United States	Refinery construction
U.S. Wheel Track Layer Corp.	United States	Christie tanks

<i>Western Company</i>	<i>Country of Origin</i>	<i>Technical Transfer to Soviet Union</i>
Verband Deutscher Werkzeugmaschinenfabrik Ausfuhr	Germany	Organization of joint technical office bureau in Berlin for execution of designs for equipment of metal manufacturing plants; organization of machine display room in Moscow
Vereinigte Carborundum & Elektrizitätswerke A-G	Germany	Manufacture and design of plant for artificial abrasives
Vereinigte Kugellager Fabriken A-G	Germany	Manufacture of ball bearings
Veritas S.A.	France	Technical assistance on tanker construction
Vickers-Armstrongs, Ltd.	United Kingdom	Tanks
Villar-Perosa Officine (RIV) s.p.a.	Italy	Manufacture of ball bearings
Vom Bauer	United States	Electric furnaces
Vultee Aircraft (Div. of Aviation Mfg. Corp.)	United States	Bombers
Webber & Wells, Inc.	United States	Food processing
Westinghouse Electric and Manufacturing Co.	United States	Power plant design, aviation test equipment
Westvaco Chlorine Products Corp.	United States	Chemical industry
Wheeler, Archer E., Engineering Co.	United States	Non-ferrous metals
White, J. G., Engineering Corp.	United States	Technical assistance on Svir Dam
Wilson, M. L.	United States	
Winkler-Koch Engineering Co.	United States	Cracking technology
Yukon Fur Farms, Inc.	United States	Organization of animal farms
Zahn A-G	Germany	Carbon disulfide

Note: These are equivalent to the Type III concessions described in Volume I.

APPENDIX D

Guide to Sources of Material

THE official numbering system of the U.S. State Department Decimal File (the central file) is used in this volume. The records for 1910 to 1930 used in *Western Technology . . . , 1917 to 1930* have been published on microfilm and references in that volume are to the National Archives microfilm. Records dated after 1930 utilized in this volume have not, as yet, been published on microfilm and references therefore refer to the Decimal File number. Thus, for example, 861.5017—Living Conditions/100 may be found in the National Archives under this file number and, although unpublished, is available for special purchase under this number. Later references, after about 1945, are held in the State Department; some for 1945 have been published in the annual series *Foreign Relations of the United States*. The greater part of the microfilmed State Department records as well as privately collected material used in this volume has been deposited at the Hoover Institution, Stanford University.

German archival material, available at the National Archives, is referred to by microcopy number; for example T 84-122-1421674 refers to Microcopy T 84, Roll 122, Frame 1421674.

Most of the scarce periodical literature is available at the Hoover Institution or the Library of Congress. Soviet technical books cited are in most cases available only at the Library of Congress, although those used in this study have been, for the most part, deposited with the Hoover Institution.

Presidential Documents

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Title 3—

Presidential Determination No. 82-19 of August 30, 1982

The President

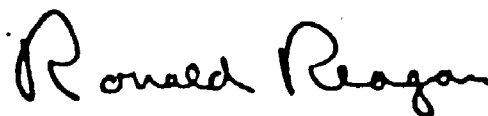
Determination under Section 2(b)(2) of the Export-Import Bank Act of 1945, as amended
People's Republic of China

Memorandum for the Honorable George P. Shultz, The Secretary of State

Pursuant to Section 2(b)(2) of the Export-Import Bank Act of 1945, as amended, I determine that it is in the national interest for the Export-Import Bank of the United States to extend a credit and guarantee in the aggregate amount of \$68,425,000 to the People's Republic of China in connection with its purchase of steel making equipment and related services.

On my behalf, please transmit this determination to the Speaker of the House and the President of the Senate.

This determination shall be published in the Federal Register.



THE WHITE HOUSE,

Washington, August 30, 1982.

[FR Doc. 82-24901

Filed 8-7-82; 4:25 pm]

Billing code 3195-01-M

N.B. Communication with the Export-Import Bank has subsequently revealed that the terms of the above transaction include a loan of \$60.4 million at 11 percent interest with 10 semi-annual payments to begin in November 1986. The remaining \$8 million is to be raised by the primary contractor, Wean United Inc. of Pittsburgh. Eximbank also guarantees this part of the arrangement.

Eximbank also consummated two additional transactions with Red China on September 23, 1981. The first of these was for \$28.4 million for "power generation equipment and services" with Combustion Engineering Inc. as the main beneficiary. And the other transaction for \$38.2 million was for "components for turbine generators, engineering services and training" with Westinghouse Corporation as the beneficiary. Both of these loans were given at 8 $\frac{3}{4}$ percent interest with 10 semi-annual payments to begin in August 1985.

Presidential Documents

Presidential Determination No. 81-12 of September 4, 1981

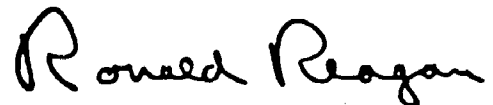
Determination Under Section 2(b)(2) of the Export-Import Bank Act of 1945, as amended—People's Republic of China

Memorandum for the Secretary of State

Pursuant to Section 2(b)(2) of the Export-Import Bank Act of 1945, as amended, I determine that it is in the national interest for the Export-Import Bank of the United States to extend two credits in the amount of \$57,105,000 to the People's Republic of China in connection with the purchase of turbine generator components, boiler components, air preheaters and related technology.

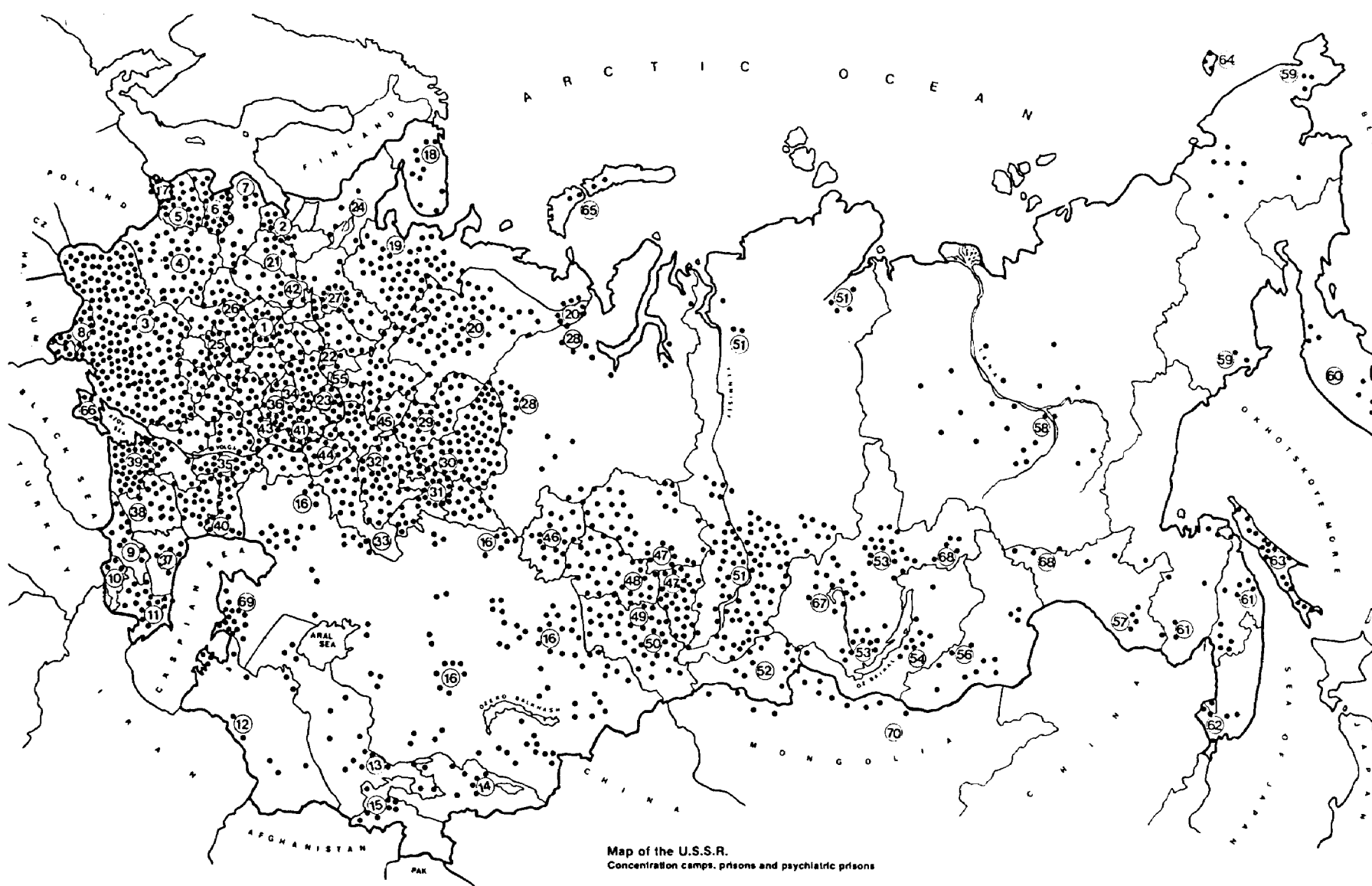
On my behalf, please transmit this determination to the Speaker of the House and the President of the Senate.

This determination shall be published in the Federal Register.



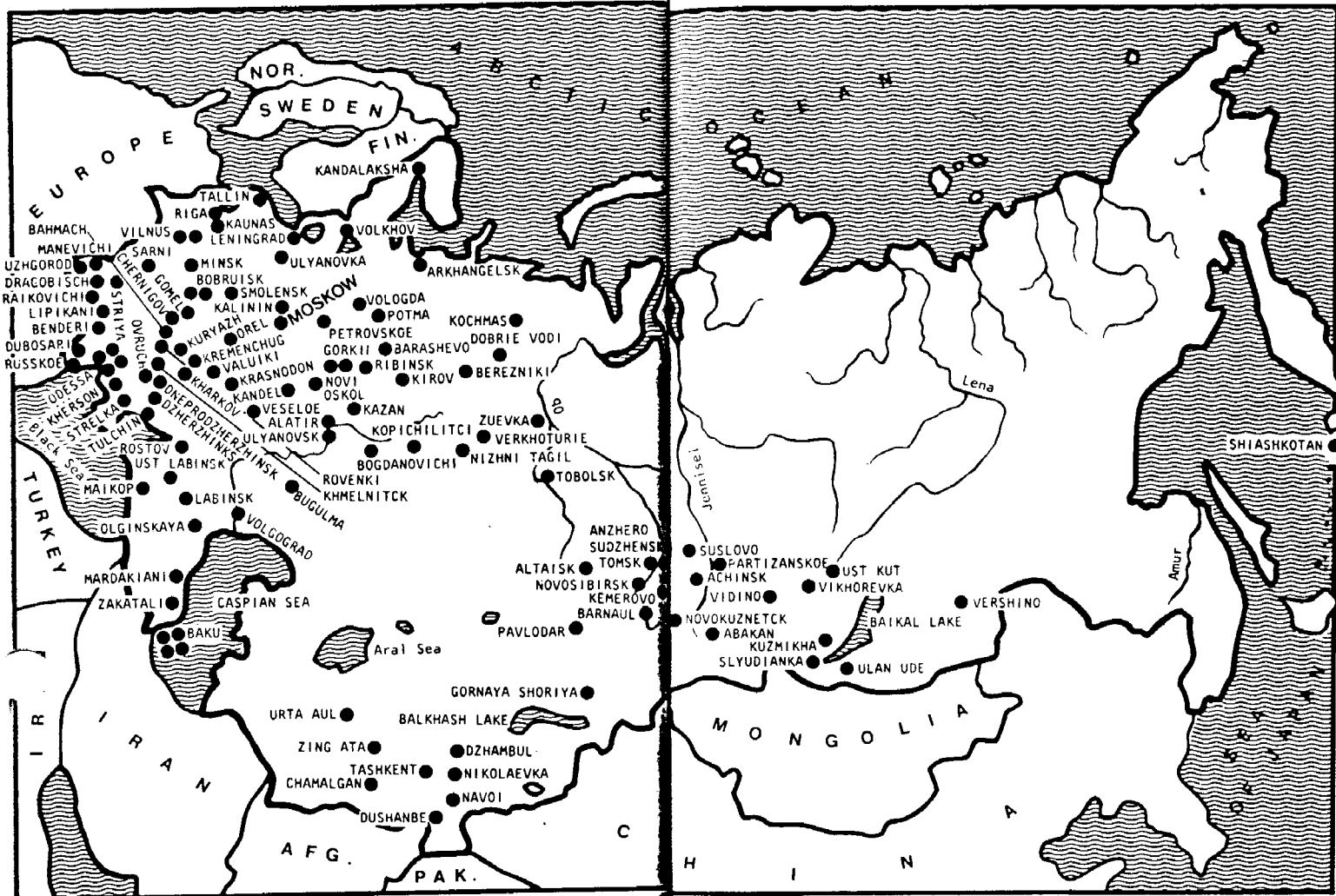
THE WHITE HOUSE,
Washington, September 4, 1981.

[FR Doc. 81-27107
Filed 9-14-81; 4:20 pm]
Billing code 3195-01-M



Map of the U.S.S.R.
Concentration camps, prisons and psychiatric prisons

- | | | | | | | |
|-----------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------|-----------------------------|
| 1. Moscow Region (RSFSR) | 11. Azerbaidzhan S.S.R. | 21. Novgorod Region (RSFSR) | 31. Chelyabinsk Region (RSFSR) | 41. Ulyanovsk Region (RSFSR) | 51. Krasnoyarsk Territory | 61. Khabarovsk Territory |
| 2. Leningrad Region (RSFSR) | 12. Turkmen S.S.R. | 22. Gorkii Region (RSFSR) | 32. Bashkir A.S.S.R. | 42. Yaroslavl' Region (RSFSR) | 52. Tuva A.S.S.R. | 62. Primorsk Territory |
| 3. Ukrainian S.S.R. | 13. Uzbek S.S.R. | 23. Tatar A.S.S.R. | 33. Orenburg Region (RSFSR) | 43. Saratov Region (RSFSR) | 53. Irkutsk Region | 63. Sakhalin Region (RSFSR) |
| 4. Belorussian S.S.R. | 14. Kirghiz S.S.R. | 24. Petrozavodsk Region | 34. Mordovian A.S.S.R. | 44. Kuibyshev Region (RSFSR) | 54. Buryat A.S.S.R. | 64. Wrangel Island |
| 5. Lithuanian S.S.R. | 15. Tadzhik S.S.R. | 25. Orel, Kursk, Tula, Kaluga, | 35. Volgograd Region (RSFSR) | 45. Udmurt A.S.S.R. | 55. Chuvash A.S.S.R. | 65. Novaya Zemlya Island |
| 6. Latvian S.S.R. | 16. Kazakh S.S.R. | Lipetsk Regions (RSFSR) | 36. Penza Region (RSFSR) | 46. Omsk Region (RSFSR) | 56. Chita Region | 66. Crimean Region |
| 7. Estonian S.S.R. | 17. Kaliningrad Region (RSFSR) | 26. Pskov, Vladimir, Bryansk, | 37. Kalmyk and Dagestan | 47. Tomsk Region (RSFSR) | 57. Amur Region | 67. Tashet "Ozerlag" |
| 8. Moldavian S.S.R. | 18. Murmansk Region (RSFSR) | Kalinin, Smolensk Regions | A.S.S.R. | 48. Novosibirsk Region (RSFSR) | 58. Yakutsk A.S.S.R. | 68. BAM |
| 9. Georgian S.S.R. | 19. Arkhangelsk Region (RSFSR) | (RSFSR) | 38. Slavopoli' Territory | 49. Altai Territory | 59. Magadan Region | 69. Mangyshlak Peninsula |
| 10. Armenian S.S.R. | 20. Komi A.S.S.R. | 27. Vologda, Kostroma, Kirov, | 39. Krasnodar Territory | 50. Gorno-Altai Autonomous | 60. Kamchatka Region | 70. Mongolia |
| | | Izhevsk Regions (RSFSR) | and Rostov Region | Region (RSFSR) | | |
| | | 28. Tyumen' Region (RSFSR) | 40. Astrakhan Region (RSFSR) | | | |
| | | 29. Perm' Region (RSFSR) | | | | |
| | | 30. Sverdlovsk Region (RSFSR) | | | | |



We do not claim that our map of women's and children's camps in the Soviet Union is complete. On the contrary, we are convinced that the number of such camps is significantly higher. Nevertheless, the tourist has been provided with a long list of specific itineraries to choose from. Those interested in learning about these islands of broken destinies need only refer to the addresses and directions provided here.

One glance at the map will show you, for example, how to get to the children's camps in *Kalinin* and *Volkhov*. Both cities lie on the train route from Moscow to Leningrad.

In *Ul'yanovka*, a suburb of Leningrad (see map of Leningrad), you can visit a camp for those women permitted to retain custody of their infant children while serving out their sentences. In *Leningrad* itself, you will find a special women's prison on Arsenal'naya Street.



Soviet authorities deny that there are children in the camps. Here you see imprisoned youths in a camp in Orël, Oktyabr'skaya Street. (See section on Orël City). The placard on the left reads, "Honest work: the road home to the family".

Compare it to the slogan displayed in Nazi concentration camps, "Work shall set you free" (Arbeit macht frei!). (photo 1976).

A camp for 3000 children and youths in Orël, 350 kilometers south of Moscow, can be reached by taking the trolley bus no. 3 to the stop marked "Khimchistka" (see special map of Orël).

Similar camps can be found in the city of Riga (Latvia) and in the Belorussian cities of Minsk and Gomel'.

You can also visit camps for women with infants in Khar'kov, Kremenchug, and Kherson (all in the Ukraine); Bendery (Moldavia); and Odessa on the Black Sea.

Children's camps and camps for women with children are also located in southern Russia – in Maikop, Ol'ginskaya, Labinsk, Ust'-Labinsk (all in Krasnodar Territory), and Rostov.

In the Urals, children's camps can be found in Verkhotur'e, Alaty'r', and Kopychilitsy; and women's camps in Dobrye Vody, Nizhnii Tagil, and Zuevka.

We know of three children's camps and two camps for women with children in Azerbaidzhan (see map of Azerbaidzhan S.S.R.) Similar camps are also indicated on the maps of Siberia, Altai, Kazakhstan, Tadzhikistan, and Uzbekistan. Wherever your tour leads you, you will find these camps. You need only consult the map.

As you can see, most of the women's and children's camps indicated on the map are to be found in central Russia and in the Ukraine. On the other hand, however, we have received little eyewitness testimony on camps in Siberia and the Soviet Far East, where, we suspect, a large number of such facilities are in operation.

In *Novosibirsk*, a popular tourists' destination, you will find eight camps, two of which, located within city limits, accommodate children – one on Gusinobrodskoe Highway, the other in the Zatulinskii residential area. The children from Zatulinskii are used, together with adult prisoners, in the construction of a stadium (the camps and directions on how to find them are shown on the map of Novosibirsk).

E. D., an eyewitness who has been to the camps in *Novosibirsk* for reasons connected with her work, reports that clubcarrying supervisors (officially called "educators") roaming about the camp grounds subject the young prisoners (aged 10 to 18) to merciless beatings. In addi-



Children in camp no. UZ NY 3/14 in Partizanskii, Krasnoyarsk Territory (photo 1975).

on, the younger boys must also suffer the harassments of the older inmates – stolen food rations, sexual abuses (homosexuality is rampant), pressures to perform involuntary favors. Those who resist are beaten. Otherwise, the boys are assigned to hard labor projects – in construction, for example – or to dangerous duties in industrial plants, such as in iron foundries.

According to E. D., conditions in the intensified-regime children's camp in *Gornyi* (Toguchin District, Novosibirsk Region) are even more horrifying. The children are assigned backbreaking duties, despite the prevalence of hunger in the camp. Those who fall ill and request transfer to a hospital are beaten.

In a *Novosibirsk* women's camp situated in the vicinity of *Tolmachevo* airport, 1500 prisoners, including nursing mothers, are given physically exhausting duties in a plant in which reinforced concrete plates are manufactured.

In a camp near the *Volochaevskii* residential area, 500 women, some of them mothers imprisoned with their infants, are assigned to work in mechanics shops.

Ada Sh., an inmate at a camp for mothers with infants in *Gor'kii* until 1979, recounts that she herself was separated from her five-year old daughter. (Children are normally allowed to stay with their mothers only until the age of two.) Nursing mothers are only given 15 minutes, three times a day, to feed their babies before being forced to return to work. Ada Sh. also tells how woman prisoners, on being taken to the camp, were forced to stand in the snow with their lightly-clothed children. Many of the children fell ill and died for lack of medical attention.

Tourists visiting the sea health resort of *Odessa* are not likely to be aware of the penal institutions in the area, including two children's camps, a children's prison, and two camps for women with children (see map of *Odessa*).

Our research center has completed a special investigation on penal institutions for children and for women with children. Copies of the findings are available on request.

LIST OF WOMEN'S AND CHILDREN'S PRISONS IN THE SOVIET UNION

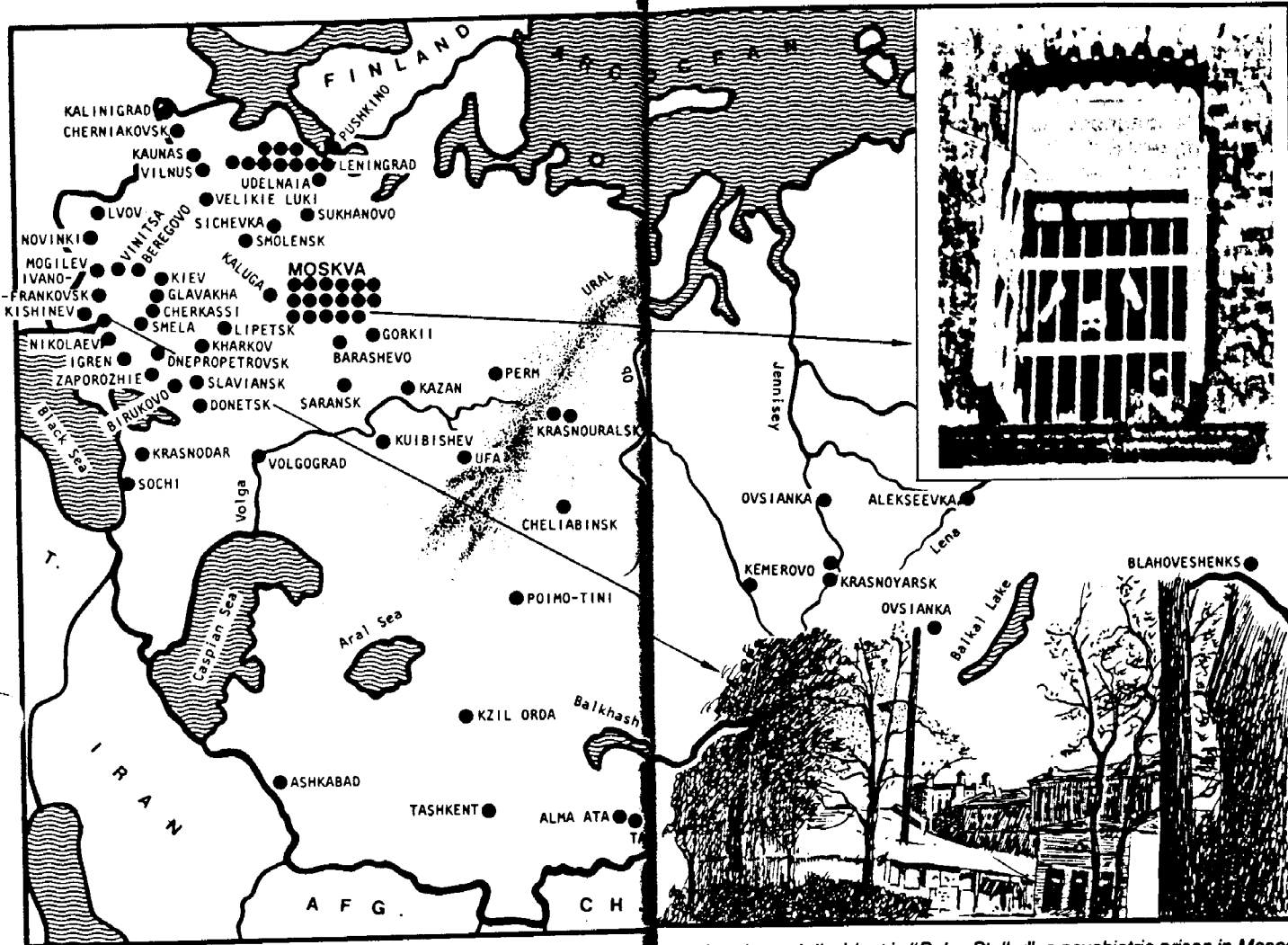
1. KANDALAKSHA, Murmansk Region – women and children
2. ARKHANGEL'SK, Arkhangel'sk Region – women and children
3. VOLKHOV, Leningrad Region – women and children
4. RIGA, Latvian S.S.R. – women and children
5. UL'YANOVKA, Leningrad Region – women and children
6. VILNIUS, Lithuanian S.S.R. – (2)-children (1); on Lukishkii Square, – women with children (1)
7. BOBRUISK, Belorussian S.S.R. – women and children
8. MINSK, Belorussian S.S.R. – women and children
9. GOMEL', Belorussian S.S.R. – (2)-children
10. DROGOBYCH, Ukrainian S.S.R. – women and children
11. UZHGOROD, Ukrainian S.S.R. – women and children
12. BENDERY, Moldavian S.S.R. – (2)-women with children
13. SARNY, Rovno Region, Ukrainian S.S.R. – women and children
14. MANEVICHI, Volyn' Region, Ukrainian S.S.R. – children
15. RAIKOVICHI, Khmel' nitskii Region, Ukrainian S.S.R. – women with children
16. DUBOSSARY, Moldavian S.S.R. – women with children
17. LIPKANY, Moldavian S.S.R. – women with children
18. RUSSKOE, Moldavian S.S.R. – women with children
19. ODESSA, Ukrainian S.S.R. – (5)-children (3); women with children (2)
20. KHERSON, Ukrainian S.S.R. – children
21. KREMENCHUG, Ukrainian S.S.R. – (2)-children (1); women with children (1)
22. KHMEL'NITSKII, Ukrainian S.S.R. – women with children
23. ROVEN'KI, Voroshilovgrad Region, Ukrainian S.S.R. – women with children
24. BAKHMACH, Ukrainian S.S.R. – women with children
25. DZERZHINSK, Ukrainian S.S.R. – women with children
26. KHAR'KOV, Ukrainian S.S.R. – children
27. CHERNIGOV, Ukrainian S.S.R. – children
28. SMOLENSK, Smolensk Region – women with children
29. KALININ, Kalinin Region – women with children
30. KOCHMAS, Komi A.S.S.R. – women with children
31. VOLOGDA, Vologda Region – women with children
32. PETROVSKOE, Voroshilovgrad Region, Ukrainian S.S.R. – women with children
33. ORÉL, Orél Region – children
34. VALUIKI, Belgorod Region – children
35. NOVYI OSKOL, Belgorod Region – children
36. RYBINSK, Yaroslavl' Region – women with children
37. GOR'KII, Gor'kii Region – women with children
38. KANDEL', Ul'yanovsk Region – women and children
39. VESÉLOE, Volgograd Region – women
40. VOLGOGRAD, Volgograd Region – women with children
41. TUL'CHIN, Ukrainian S.S.R. – women with children

42. OVRUCH, Ukrainian S.S.R.	- women with children
43. ARABATSKAYA STRELKA, Crimean Region, Ukrainian S.S.R.	- children
44. MAIKOP, Krasnodar Territory	- women with children
45. LABINSK, Krasnodar Territory	- children
46. UST-LABINSKAYA, Krasnodar Territory	- children
47. OL'GINSKAYA, Krasnodar Territory	- women with children
48. MARDAKYAN, Azerbaidzhan S.S.R.	- children
49. ZAKATALY, Azerbaidzhan S.S.R.	- children
50. CHERNYI GOROD (suburb of Baku), Azerbaidzhan S.S.R.	- children
51. BAKU, Azerbaidzhan S.S.R.	-(2)-children (1); women with children (1)
52. BUGUL'MA, Tatar A.S.S.R.	- women with children
53. KAZAN', Tatar A.S.S.R.	- children
54. UL'YANOVSK, Ul'yanovsk Region	- women
55. BOGDANOVICH, Sverdlovsk Region	- children
56. ALATYR', Chuvash A.S.S.R.	- women with children
57. POT'MA, Mordovian A.S.S.R.	- women with children
58. BARASHEVO, Mordovian A.S.S.R.	- women with children
59. KIROV, Kirov Region	- women with children
60. ZUEVKA, Kirov Region	- women and children
61. DOBRYE VODY, Perm' Region	- women and children
62. VERKHOTUR'E, Sverdlovsk Region	- women with children
63. TOBOL'SK, Tyumen' Region	- children
64. NIZHNII TAGIL, Sverdlovsk Region	- children
65. KOPYCHILITSY, Perm' Region	- women with children
66. ANZHERO-SUDZHENSK, Kemerovo Region	- women with children
67. SUSLOVO, Kemerovo Region	-(2) - women with children
68. PAVLODAR, Kazakh S.S.R.	- women with children
69. ACHINSK, Krasnoyarsk Territory	- children
70. GORNAYA SHORIYA, Kemerovo Region	- women with children
71. DZHAMBUL-2, Kazakh S.S.R.	-(2) - women with children
72. NIKOLAEVKA, Alma-Ata Region, Kazakh S.S.R.	- women and children
73. TASHKENT, Uzbek S.S.R.	-(3) - children (1); women and children (2)
74. NAVOI, Bukhara Region, Uzbek S.S.R.	- children
75. URGU, Uzbek S.S.R.	- children
76. ZING ATA, Uzbek S.S.R.	- women and children
77. CHAMAL'GAN, Kazakh S.S.R.	- women and children
78. DUSHANBE, Tadzhik S.S.R.	- women and children
79. PARTIZANSKOE, Krasnoyarsk Territory	- women and children
80. NOVOALTAISK, Altai Territory	- women and children
81. ABAKAN, Krasnoyarsk Territory	- children
82. BARNaul, Altai Territory	- women and children
83. NOVOKUZNETSK, Kemerovo Region	- women and children

84. KEMEROVO, Kemerovo Region	- women and children
85. UST'-KUT, Irkutsk Region	- women and children
86. VYDRINO, Buryat A.S.S.R.	- women and children
87. TOMSK, Tomsk Region	-(3) - children (1); women and children (2)
88. NOVOSIBIRSK, Novosibirsk Region	-(3) - children (2); women with children (1)
89. VIKHOREVKA, Irkutsk Region	- women with children
90. KUZMIKHA, Irkutsk Region	- women (invalids)
91. SLYUDYANKA, Irkutsk Region	- women
92. ULAN-UDE, Buryat A.S.S.R.	- women with children
93. SHIKOTAN, Kuril Islands	- women with children
94. VERSHINO, Primorsk Territory	- women with children
95. MOSCOW	-(2) - children
96. DNEPRODZERZHINSK, Dnepropetrovsk Region, Ukrainian S.S.R.	- women with children
97. KOROSTEN', Zhitomir Region, Ukrainian S.S.R.	- children
98. MOSHKOVO, Novosibirsk Region	-(3) - women
99. CHEREPANOVO, Novosibirsk Region	-(3) - women

TOTAL: 119 camps and prisons for women and children¹

¹ Those place names listed without the name of a Soviet Socialist Republic (S.S.R.) are located in the Russian Soviet Federated Socialist Republic (R.S.F.S.R.) - trans.



PSYCHIATRIC HOSPITALS AND SPECIAL PSYCHIATRIC PRISONS IN THE SOVIET UNION MOSCOW

1. The *Serbskii* Institute of Forensic Psychiatry, Kropotkinskii Prospekt 23 (metro station "Kropotkinskaya").
2. Psychiatric Hospital No. 14, Bekhterev Street 15.

Imprisoned dissident in "Belye Stolby", a psychiatric prison in Moscow (photo 1975).

(The proper English term is, of course, "mental hospital". A literal translation of the Russian *psikhbol'nitsa* (psychiatric hospital), however, has been used throughout the *Guidebook*. — *trans.*) Citizens who anger officialdom by demanding justice from the Procuracy or from the Presidium of the Supreme Soviet of the U.S.S.R. are often brought here. A special ward was opened in 1976. Aleksander Argentov is a prisoner here.

3. Psychiatric Hospital No. 7, *Institutskii Lane 5* (medical superintendent: Rubashov). Healthy people are imprisoned here for political reasons. Valentin *Ivanov*, for example, was brought here for having staged a one-man march demonstration to the Bol'shoi Theater with a placard reading, "I want to leave the U.S.S.R.", in 1978. Rubashov's diagnosis of *Ivanov*: "Misjudgment of the surrounding reality."

4. Psychiatric Hospital No. 5, *Stolbovaya* (suburb of Moscow, located on the train route to Kursk). Vladimir *Avramenko* is one of a number of healthy political prisoners confined to this clinic. His crime: participating in anti-Soviet conversations.

5. The *Gannushkin* Psychiatric Hospital. Houses a special ward for political prisoners.

6. Psychiatric Hospital No. 15. Houses a ward for political prisoners.

7. Psychiatric Hospital No. 1 ("*Kashchenko*"). *Zagorodnoe Highway 2*. Staff physicians: Morkovkin (medical superintendent), Belikov, Mazurskii, and Bel'skaya. Aleksei Popov, one of the hospital attendants at the "*Kashchenko*", is known among the patients for his sadism. One ward has been set aside for prisoners arrested by the K.G.B.

8. Psychiatric Hospital No. 3, *Matrosskaya Tishina 20*. Vasilii *Zhigalkin*, who was arrested for attempting to visit the American embassy, is one of the dissidents confined here. Prisoners here are kept in a separate ward under the sole jurisdiction of the K.G.B.

9. *Krasnopresnenskii* District Out-Patients Clinic for Psychiatric Diseases. Healthy prisoners here are confined together with mentally ill patients.

10. Out-Patients Clinic for Psychiatric Diseases No. 8 (medical superintendent: Volkov). Political prisoners are held here.

11. Psychiatric Hospital No. 13, *Lyublino*, Podmoskov'e (suburb of Moscow). Political prisoners are confined here.

12. Psychiatric Hospital No. 7. Citizens petitioning the Presidium of the Supreme Soviet of the U.S.S.R. for a re-

dress of grievances are often brought to this psychiatric prison for "examination".

13. The *Meshcherskii* Psychiatric Hospital. Contains wards for political prisoners.

14. Special Psychiatric Reception Center No. 2 of the Ministry of Interior, *Novoslobodskaya Street 45*, building no. 4. A reception center for dissidents sent here from the K.G.B.

15. Special Psychiatric Prison IZ-48/1. Housed in the *Matrosskaya Tishina* Prison, *Matrosskaya Tishina Street*.

16. Out-Patients Clinic for Psychiatric Diseases No. 13, *Moskva-Sevastopol'skii Throughway 26-28*. Accommodates four wards. Medical superintendent: Svishchev, tel. 1202255. One of the political prisoners here, Gavriil *Yan'kov*, a miner, was arrested for attempting to establish an independent labor union.

17. The Central Hospital for Clinical Psychiatry of the Moscow Region, *Moscow, Eighth of March Street 1* (ulitsa vos'mogo marta 1). Among the political prisoners confined here is Yurii *Valov*. His family's address: *Sportivnaya Street 20/4, Tuchkovo, Ruza District, Moscow Region*.



Psychiatric ward of the Odessa Region hospital in "Slobodka", Odessa city (see map of Odessa city).

PSYCHIATRIC PRISONS IN LENINGRAD

1. Psychiatric Hospital No. 5 ("*Skvortsov-Stepanov*"), *Lebedev Street* 39. The Skvortsov-Stepanov Hospital serves as a prison for dissidents illegally declared *non compos mentis* by the state, including those arrested for their belief in God (such as Vladimir *Veretennikov* and Mikhail *Vorozhbit*). The medical superintendent, Ekaterina Kurakina, has repeatedly stated, "People who believe in God belong in a mental ward."
2. Psychiatric Hospital No. 6. Twenty-five people are confined to a single room in this psychiatric prison, and walks are not permitted. "Patients" are subjected to beatings by the hospital attendants. Lev *Konin*, one of the inmates here (1978), has informed us that, as a means of punishment, the prisoners are bound in a wet strait jacket and then tied to a bed. When the strait jacket dries, it compresses the body with frightful force. Two sadistic physicians here are named Tsvetkov and Bobrova.
3. The *Pryazhka* Psychiatric Hospital, *Maklin Street*. Political prisoners held here in secret captivity are confined to this hospital's special wards. The "Pryazhka" may be reached by bus nos. 2 and 100 from the center of the city.
4. Psychiatric Hospital no. 3. Vladimir *Borisov*, a well-known dissident and former inmate of this psychiatric prison, held hunger strikes here together with Viktor *Fainberg*. Known physicians: Popova, Isakov, Tobak, and Zhivotovskaya.
5. The *Vyborg* District Out-Patients Clinic for Psychiatric and Neurological Diseases. People known for their anti-Communist views are held here.
6. Out-Patients Clinic for Psychiatric Diseases on the Obnovyi Canal (tram nos. 10 and 19, bus no. 50 from Moscow Station). Political prisoners are brought here by the K.G.B. for "examination".
7. Psychiatric Hospital No. 1 ("*Kashchenko*"), Gatchina District. Special wards for political prisoners are maintained here.

8. Psychiatric Prison, *Lebedev Street* (part of the Kresty Prison complex). Notorious for its brutal conditions of confinement.

9. Psychiatric Hospital, *Pushkino*, Leningrad Region. Normal people arrested for political reasons are confined here together with insane inmates.

10. Psychiatric Hospital, *Udel'naya*, Leningrad Region. Special K.G.B. wards are maintained here. Public transportation: bus no. 75 to Ozerki stop; tram nos. 20, 21, or 28; or the electric train from the Finland Station.

PSYCHIATRIC PRISONS IN OTHER REGIONS

1. The Psychiatric Hospital of *Slavyansk*, Donetsk Region (Ukrainian S.S.R.). Viktor *Borovskii*, who was declared insane and confined here for holding a lecture on the works of Aleksandr Solzhenitsyn, has described maintenance system of the hospital as catastrophic and compared conditions to those of a prison, despite the fact that this facility is rated as "ordinary". (Soviet penal institutions are placed into various categories of severity: ordinary, intensified, hard, and strict or special regime etc. - *trans.*) Borovskii writes, "The hospital attendants are constantly drunk. They beat anyone that they happen to get a hold of. They rouse up the inmates in the middle of the night, taunt them, and make them dance." The names of these jailer attendants are Yuri Slepets and Arkadii Zhuravskii.
2. Psychiatric Hospital No. 15, *Khar'kov*, Khar'kov Region, (Ukrainian S.S.R.). Political prisoners are concealed here in special wards.
3. The Scientific Research Institute of Psychiatry, *Khar'kov*. Normal human beings who happen to think differently, are imprisoned here in this nest of arbitrary violence. Medical superintendent: Sosin. Staff physicians: Gritsenko, En', and the chief psychiatrist for the Khar'kov Region, Nikitin.
4. The Psychiatric Hospital of *Krasnoyarsk* (Krasnoyarsk Territory), *Kurchatov Street* 14. A psychiatric prison. Medical superintendent: Chistyakova.
5. The Psychiatric Hospital of *Poimo-Tiny*, Krasnoyarsk Territory. The medical superintendent of this psychiatric prison, Odezhkin, once declared to one of his "patients", the dissident Yuri Belov, "As long as the Voice of America defends your cause, you are a menace to society - and that means that legally you are not accountable for your own actions".
6. The Special Psychiatric Prison of *Sychëvka*, Smolensk Region (Facility No. YaO-100/5). One of the most terrifying psychiatric prisons in the Soviet Union. In an open letter smuggled out of the facility, the imprisoned dissident, Iosif *Terebya*, describes the inhuman punishments meted out to the inmates. Staff member, Al'bert Zelënov, physician.
7. The Psychiatric Hospital ("ordinary" regime) of *Beregovo*, Transcarpathian Region (Ukrainian S.S.R.). A psychiatric prison for political prisoners. Members of the staff: Irina Romanovich (medical superintendent), and the physicians Kirichuk (deputy medical superintendent) and Roman Bondar'.

8. The Special Psychiatric Hospital-Prison (in Russian, *spetspsikhbofnitsa-tyurma*. The official name of these institutions, however, is *spetsbofnitsa* (special psychiatric hospital). The word *tyurma* [prison] has been added in a number of cases by the author to indicate the prison-like conditions that reign in these facilities. — trans.) of *Dnepropetrovsk*, Dnepropetrovsk Region, (Ukrainian S.S.R.), located on the grounds of Prison No. 1. Leonid Piyushch, an Ukrainian dissident now living in the West, is a former inmate of this facility. The radio operator of the Soviet tanker *Tuapse*, Ivankov, who lived for a time in the West is confined here.

9. The Special Psychiatric Hospital of *Kazan'* (Tatar A.S.S.R.), Ershov Street 49, official address: ul. Ershova No. 49, p/ya UE 148/st.6. Staff members: Col. Sveshnikov (prison superintendent), Valitov (medical superintendent), Major Saifulin (deputy prison superintendent). Many normal people are imprisoned here for their belief in God or, as in the case of N. *Plakhotnyuk*, who was arrested for distributing the proscribed journal *Ukrainskii Vestnik*, for their support of national liberation movements.

10. The psychiatric hospital ("ordinary" regime) in *Kaluga*, Kaluga Region. Normal people are concealed here among the insane. Vladimir *Rozhdestvenskii*, for example, has been incarcerated here since 1977 for having written leaflets advocating the introduction of democracy to the Soviet Union.

11. The psychiatric hospital in *Burashevo*, *Kalinin* Region. Political prisoners are confined here.

12. The psychiatric hospital ("ordinary" regime) in *Ovsyanka*, *Krasnoyarsk* Territory. Political prisoners are confined here.

13. The psychiatric hospital in *Mogilev*, *Mogilev* Region (Belorussian S.S.R.). Among the political prisoners jailed here for their religious beliefs is Mikhail *Kukobaka*, who was arrested for hanging an icon over his bed in the labor commune where he worked and for explaining the meaning of the Universal Declaration of Human Rights to his fellow workers. *Kukobaka's* "attending" physician: Nadezhda Drabkina.

14. The psychiatric hospital in *Krasnodar*, *Krasnodar* Territory, *Krasin Street* 1. Mikhail *Zhikharev*, one of the political prisoners here, was arrested for having demanded a just distribution of wages and bonuses in the factory where he worked. "Attending" physicians of the hospital: OI'shevskaya and Anna Nichko.

15. The Special Psychiatric Hospital-Prison of *Chernyakhovsk*, *Kaliningrad* Region. Address: p/ya OM-216/st.2. General Petr *Grigorenko* has provided the world with information about this brutal political prison (see accompanying photograph).

16. The psychiatric hospital ("ordinary" regime) in *L'vov*, *L'vov* Region (Ukrainian S.S.R.), *Kul'tparkovaya Street* 95. Zinovii *Krasivskii*, an advocate of an independent Ukraine, is one of the dissidents imprisoned among the insane inmates.

17. The special psychiatric hospital-prison in *Alma-Ata*, *Kazakh* S.S.R. A place of confinement for political prisoners arrested for their belief in God and legally declared non-accountable for their actions.

18. The special psychiatric hospital-prison in *Smolensk*, *Smolensk* Region. Political prisoners are held here. Medical superintendent: Vyacheslav Bobrov.

19. The special psychiatric hospital-prison in *Taigar*, *Alma Ata* Region (Kazakh S.S.R.), Facility No. LA-155/7. Many political prisoners are confined here.

20. The psychiatric hospital ("ordinary" regime) in *Lipetsk*, *Voronezh* Region. Contains special wards for political prisoners.

21. The special psychiatric reception center in *Kiev-Darnitsa*, *Ukrainian S.S.R.* Houses wards for political prisoners.

22. The *Pavlov* Psychiatric Hospital ("ordinary" regime), *Kiev*. Efim *Pargamanik* has been confined here since 1977 for having persistently applied for emigration to Israel (Ward 22).

23. The special psychiatric hospital-prison (p/ya UYa-64/PB) in *Tashkent*, *Uzbek S.S.R.* Several wards for political prisoners. Inmates include those arrested for their belief in God.

24. The Out-Patients Clinic for Psychiatric and Neurological Diseases of *Velikie Luki*, *Pskov* Region. Contains wards for political prisoners.

25. The psychiatric hospital ("ordinary" regime) in *Sukhanovo*, *Pskov* Region. Political prisoners are confined here.

26. The Out-Patients Clinic for Psychiatric Diseases of *Sochi*, *Krasnodar* Territory. Many political prisoners are held here. Medical superintendent: N. Belyaeva; her address: Chaikovskaya Street 3, App. 61, *Sochi*. Belyaeva once declared to Mikhail *Zhikharev*, a dissident, "We are giving you treatment because you are against the Soviet state".

27. The psychiatric hospital ("ordinary" regime) in *Smela*, *Cherkassy* Region (Ukrainian S.S.R.). Separate wards are maintained here for political prisoners, including the Ukrainian Nikita *Plakhotnyuk*, an advocate of Ukrainian independence. His "doctors" say, "He is here because he is against the Soviet state". The fact that this is the only explanation to be heard in both *Smela* and *Sochi* only shows that instructions emanate from a single source — the K.G.B.

28. The psychiatric hospital ("ordinary" regime) in *Zaporozh'e*, *Zaporozh'e* Region (Ukrainian S.S.R.). Dissidents are known to be imprisoned here.

29. Psychiatric Hospital No. 2, *Chelyabinsk*, *Chelyabinsk* Region (Urals). Political prisoners are held in this psychiatric prison.

30. The psychiatric hospital ("ordinary" regime) in *Biryukovo*, *Voroshilovgrad* Region (Ukrainian S.S.R.). Wards for normal people persecuted by the K.G.B. are maintained here.

31. The Republican Psychiatric Hospital in *Novinki*, *Minsk* Region (Belorussian S.S.R.). Normal people are imprisoned together with mentally ill patients. Lidiya *Valendo*, for example, was imprisoned here for having applied for waiver of her Soviet citizenship and for emigration to the free world. The diagnosis of her attending physician, Nikolaenko: "Normal people do not emigrate from the Soviet Union."

32. The psychiatric hospital ("ordinary" regime) in *Kaliningrad*, *Kaliningrad* Region, *Aleksandr Nevskii Street* 78-A. A psychiatric prison for political prisoners.

33. The Republican Psychiatric Hospital in *Ufa*, *Bashkir A.S.S.R.* Special wards are maintained here for political prisoners.

34. The Republican Psychiatric Hospital in *Naujoji Vilnia* (New Vilnius), near Vilnius, *Lithuanian S.S.R.* Many dissidents, all healthy people, are imprisoned here.

35. The special psychiatric hospital-prison in *Kemerovo*, Kemerovo Region. Normal political prisoners are confined here with insane inmates.

36. Psychiatric Hospital No. 1 ("ordinary" regime), *Donetsk*, Donetsk Region (Ukrainian S.S.R.). Special wards for political prisoners are maintained here.

37. The psychiatric hospital ("ordinary" regime) in *Nikolaev*, (Ukrainian S.S.R.). A prison for dissidents where the sadist physician Mariya Nikulina is notorious.

38. The special psychiatric hospital-prison in *Blagoveshchensk*, Amur Region. Opened in 1972, known for the sadistic punishment meted out to political prisoners.

39. The special psychiatric hospital-prison in *Kzyl-Orda*, Kazakh S.S.R. Political prisoners are incarcerated here with mentally ill patients.

40. The special psychiatric hospital-prison in *Perm'*, Perm' Region (Urals). Special wards for political prisoners are maintained here.

41. The psychiatric hospital ("ordinary" regime) in *Alekseevka* (60 kilometers from Alma-Ata) *Alma-Ata* Region (Kazakh S.S.R.). Soviet citizens of German origins in Kazakhstan who apply for emigration to the Federal Republic of Germany are sent here.

42. The psychiatric hospital in *Vinnitsa*, Vinnitsa Region, (Ukrainian S.S.R.), on *Pirogov Street*. The Ukrainian poet Iosif *Terebly* is imprisoned here in 38v.

43. The *Mogil'ev* Region Psychiatric Hospital (Belorussian S.S.R.). Kurovkin was imprisoned here for discussing questions of democracy and human rights with workers. Ward superintendent: My'nikov; deputy medical superintendent: Kasperov.

44. The Psychiatric Clinic of the Medical Institute in *Kuibyshev*, Kuibyshev Region. Wards for "processing" political prisoners are maintained here.

45. The *Cherkassy* Region Psychiatric Hospital. The Ukrainian nationalist, N. *Plakhotnyuk*, is imprisoned here.

46. The psychiatric hospital in *Kaunas*, Lithuanian S.S.R., *Kuzmos Street*. *Arvidas Chekhanavichyus*, an advocate of Lithuanian independence, has been imprisoned here for six years. His mother, Prane Vasilyauskene, lives in Kaunas; tel. 61706.

47. The Republican Psychiatric Hospital in *Saransk*, Mordovian A.S.S.R., *Lesnaya Street 2*. The K.G.B. maintains special wards here for political prisoners.

48. The psychiatric institution in *Komsomol'skii*, near *Gorkii*, Gorkii Region (accommodating 16 wards). One of the political prisoners confined here is Mikhail *Sergeev*.

49. The Psychiatric Hospital of *Glavakha*, Kiev Region, (Ukrainian S.S.R.), p/b No. 18. Inmates here confined for their belief in God.

50. The City Psychiatric Hospital of *Kishinev*, Moldavian S.S.R. Special wards are maintained here for those imprisoned, among other things, for their belief in God.

51. The Psychiatric Hospital of *Ivano-Frankovsk*, Ivano-Frankovsk Region (Ukrainian S.S.R.). *Vasilii Sichko*, a Ukrainian arrested for having participated in a Ukrainian nationalist meeting, is imprisoned here.

52. The psychiatric hospital ("ordinary" regime) in *Vilnius*, Lithuanian S.S.R. Normal people are sent to the special wards here by the K.G.B. for "examination" and often remain as long as one to one and a half years.

53. The psychiatric hospital in *Beregovo*, Transcarpathian Region, Ukrainian S.S.R. Normal people arrested for participating in the Ukrainian independence movement and declared legally incapable of accounting for their actions are imprisoned here.

54. The Volgograd Region Psychiatric Hospital in *Volgograd*. The K.G.B. secretly maintains political prisoners in a special section here.

55. The Republican Psychiatric Hospital in *Ashkhabad*, Turkmen S.S.R. Political prisoners, declared "insane" for their belief in God, are confined in a special section.

56. The psychiatric hospital in *Kemerovo*, Kemerovo Region. Prisoners from the surrounding camps who revolt against the harsh regimen there are placed in a special section of the hospital.

DEATH CAMPS

This particularly horrifying map denotes those camps in the U.S.S.R. where prisoners, forced to work under dangerously unhealthy conditions for the Soviet war machine, face a virtually certain death.

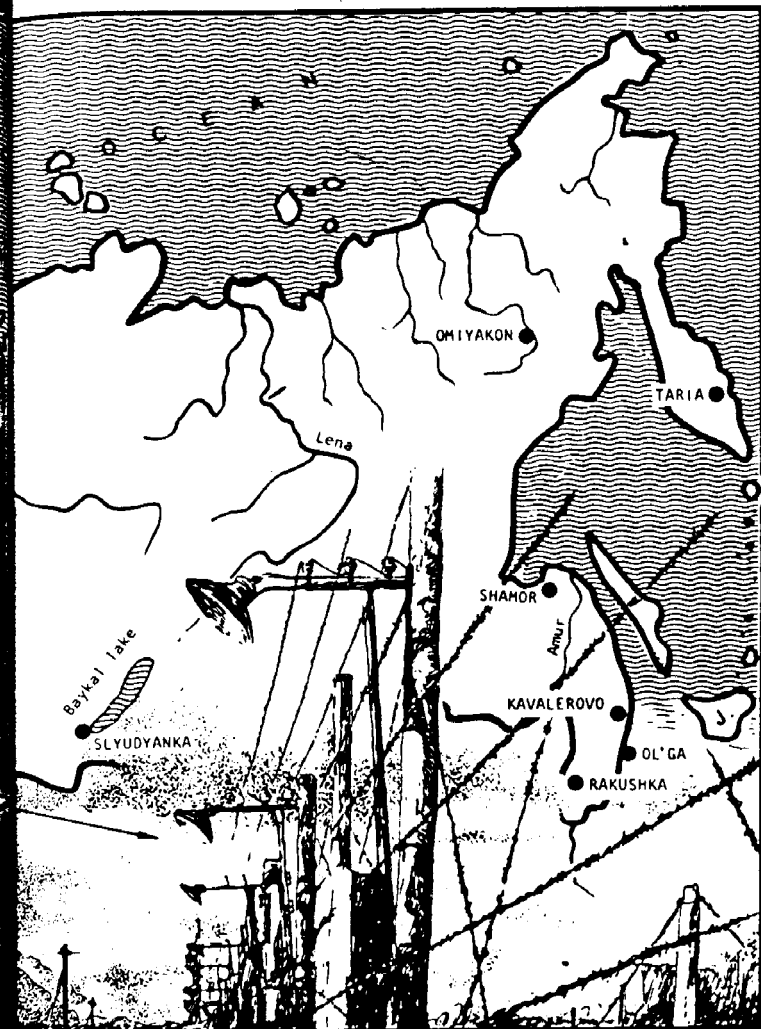
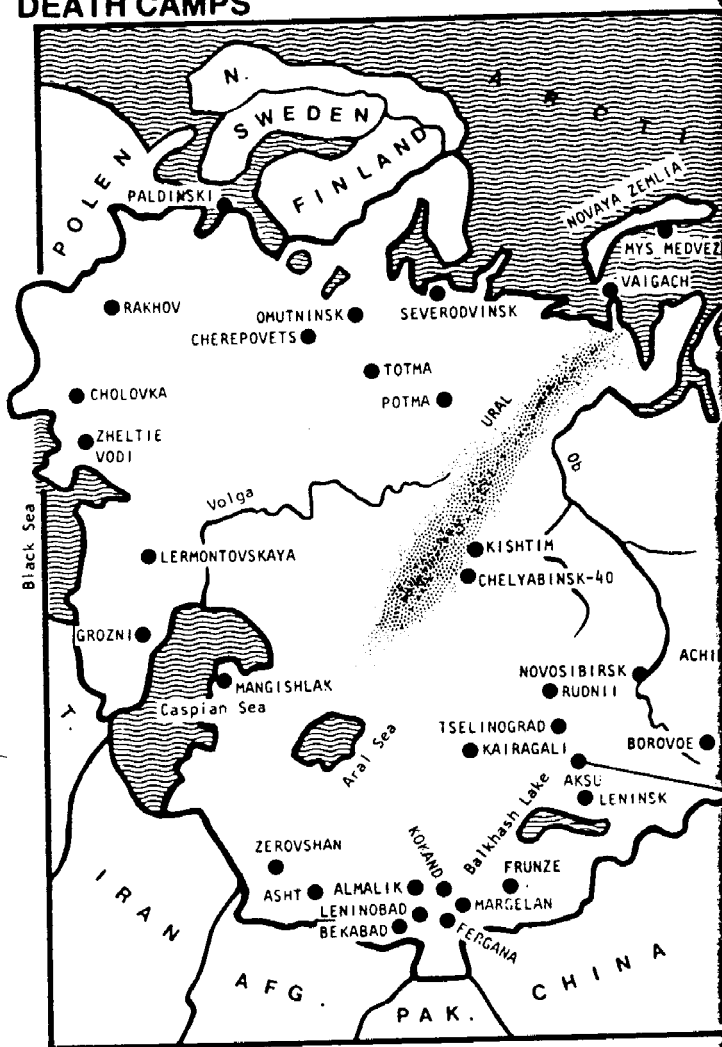
These camps may be divided into three groups:

1. camps that almost no one ever comes out of alive again (the prisoners work in uranium mines and uranium enrichment plants);

2. camps where the lives and health of prisoners are exposed to dangerous work in the arms industry or in the armed services (the prisoners perform high-risk duties in military nuclear plants or clean the nozzles of atomic-powered submarines);

3. camps where prisoners are used for dangerously unhealthy jobs that lead to work disability and fatal illness (the prisoners operate glass-polishing machines, cleave mica, or work with lacquer enamels without ventilation).

DEATH CAMPS



Here follows a list of these camps¹:

- 1) *Paldiski Bay*, Estonian S.S.R. – cleaning of the nozzles of atomic-powered submarines;
- 2) *Severodvinsk*, Arkhangel'sk Region – cleaning of the nozzles of atomic-powered submarines;
- 3) *Omutninsk*, Kirov Region – uranium mining; the entire work area is exposed to radiation;

¹Those place names listed without the name of a Soviet Socialist Republic (S.S.R.) are located in the Russian Soviet Federated Socialist Republic (R.S.F.S.R.) – trans.

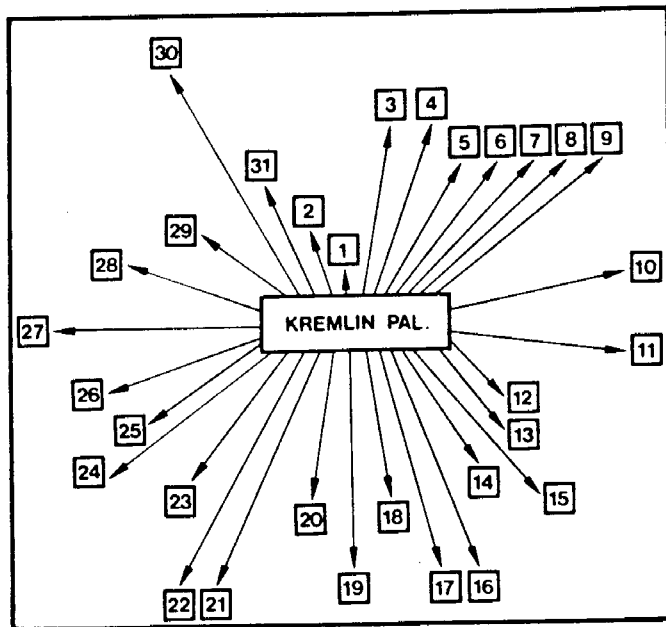
- 4) *Tot'ma*, Vologda Region – underground uranium mining, uranium enrichment facility;
- 5) *Cherepovets*, Vologda Region – open-pit uranium mining, uranium enrichment facility; an extensive area around the mine is exposed to radiation;
- 6) *Cholovka*, Zhitomir Region, Ukrainian S.S.R. – underground uranium mining;
- 7) *Zheltie Vody*, Dnepropetrovsk Region, Ukrainian S.S.R. – underground uranium mining;
- 8) *Lermontov*, Stavropol' Territory – underground uranium mining;

- 9) vicinity of *Rakhov*, Transcarpathian Region (restricted military district) – open-pit uranium mining; the surrounding area is exposed to radiation;
- 10) *Groznyi*, Chechen-Ingush A.S.S.R. – underground uranium mining, uranium enrichment facility;
- 11) *Mangyshlak* peninsula (Caspian Sea), Kazakh S.S.R. – uranium mining, uranium enrichment facility; work on nuclear reactor;
- 12) *Aksu*, Kazakh S.S.R. – uranium mining, uranium enrichment facility; the entire region is exposed to a high-level of radiation;
- 13) *Tselinograd*, Kazakh S.S.R. – open-pit uranium mining; the entire work area is exposed to radiation;
- 14) *Borovoe*, Kazakh S.S.R. – open-pit uranium mining; the work area is exposed to radiation; although a large health resort is located in this very vicinity, the government has characteristically refrained from warning holiday guests against the dangerous radiation;
- 15) *Karagaily*, Kazakh S.S.R. – open-pit and underground uranium mining;
- 16) *Al'malyk*, Kazakh S.S.R. – underground uranium mining;
- 17) *Rudnyi*, Kazakh S.S.R. – uranium mining, uranium enrichment facility;
- 18) *Achinsk*, Krasnoyarsk Territory – open-pit uranium mining, uranium enrichment facility in the "Glinozemnyi" plant;
- 19) *Leninsk*, Uzbek S.S.R. – underground uranium mining, uranium enrichment facility;
- 20) *Fergana*, Uzbek S.S.R. – underground uranium mining, uranium enrichment facility;
- 21) *Margelan*, Uzbek S.S.R. – underground uranium mining, uranium enrichment facility;
- 22) *Kokand*, Uzbek S.S.R. – underground uranium mining;
- 23) *Leninabad*, Tadzhik S.S.R. – underground uranium mining, uranium enrichment facility; the high level of radiation in the area constitutes a serious health hazard;
- 24) *Sovetabad*, Tadzhik S.S.R. – underground uranium mining;
- 25) *Bekabad*, Tadzhik S.S.R. – underground uranium mining, uranium enrichment facility;

- 26) *Asht*, Tadzhik S.S.R. – underground uranium mining; area exposed to high-level radiation;
- 27) *Zeravshan*, Tadzhik S.S.R. – underground uranium mining, uranium enrichment facility;
- 28) *Frunze*, Kirgiz S.S.R. – underground uranium mining, uranium enrichment facility;
- 29) *Chelyabinsk-40*, Chelyabinsk Region – work in a nuclear warhead plant;
- 30) *Kyshtym*, Chelyabinsk Region – mining and enrichment of uranium for further use in the nuclear warhead plant in Chelyabinsk-40;
- 31) *Novosibirsk* (northern settlement), Novosibirsk Region – work in the "Khimkontsentrat" and "Khimapparat" plants for the production of nuclear warheads;
- 32) *Oimyakon*, Yakutsk A.S.S.R. – underground uranium mining;
- 33) *Slyudyanka*, Irkutsk Region – mica-cleaving (women's camp);
- 34) "Dubrovlag" (Pot'ma), Mordovian A.S.S.R. – glass-grinding without ventilation;
- 35) *Vaigach* Island (Arctic Ocean) – uranium mining, uranium enrichment facility;
- 36) Cape Medvezhii, *Novaya Zemlya* – uranium mining, uranium enrichment facility;
- 37) *Tar'ya* Bay, Kamchatka Region – cleaning of the nozzles of atomic-powered submarines;
- 38) *Rakushka* Bay, Primorsk Territory – cleaning of the nozzles of atomic-powered submarines;
- 39) *Ol'ga* Bay, Primorsk Territory – uranium enrichment facility;
- 40) *Kavalerovo*, Primorsk Territory – open-pit uranium mining; danger zone containing deadly radiation;
- 41) *Shamor* Bay, Primorsk Territory – uranium mining, uranium enrichment facility; zone of deadly radioactivity.

Our research center has conducted a special investigation of the death camps in the Soviet Union. Unfortunately, we were not able to include all our findings in the notes to the map. Those interested, however, may receive additional information on request.

MOSCOW CITY



Schematic plan of the penal facilities in Moscow. See list below.

Moscow city Schematic plan of camps, prisons, and psychiatric prisons in Moscow

1. "Lubyanka", central K.G.B. prison on Dzerzhinskii Square (Metro Station: "Dzerzhinskii Square").
2. "Metro" Prison on Mir Prospect, behind the Botanical Gardens (Metro Station: "Prospect Mira").
- 3., 4., 5. Kazan' Station, Severnyi (Northern) Station, and Leningrad Station. In the basements of all three stations, there are underground prisons (Metro Station: "Komsomol'skaya").
6. Gannushkin Psychiatric Hospital. In reality, a psychiatric prison. Directions: to Metro Station "Sokolniki" or bus no. 173 to the stop marked "Sokolniki".
- 7., 8., 9. Matrosskaya Tishina Prison; psychiatric prison no. 12-48/1 (also called "Matrosskaya Tishina"); psychiatric hospital no. 3 (in fact, a psychiatric prison). All three are located on Matrosskaya Tishina Street (nos. 4-20). Metro Station: "Izmailovskaya" and "Preobrazhenskaya".
10. Psychiatric Hospital No. 5, "Belye Stolby" (in fact, a psychiatric prison). Directions: electric commuter train to Kursk Station (Metro Station: "Kurskaya").
11. Ukrainian K.G.B. prison at Sukhanov Station. May be reached from Kursk Station (Directions: "Kurskaya").
12. "Lefortovo", special K.G.B. prison. Directions: to Metro Station "Baumanskaya" and then with the tram to stop marked "Energeticheskaya Street".

13. Out-Patients Clinic for Psychiatric Diseases No. 13. Political prisoners are held in special cells in Ward No. 4. Moskva-Sevastopol'skii Throughway 26-28. Tel.: 1202255.

14. "Shablodka", a psychiatric hospital (in reality, a psychiatric prison), on Shablodka Street. Metro Station: "Dobryninskaya".

15. The Central Hospital for Clinical Psychiatry of the Moscow Region, Vos'mogo Marta Street 1. Political prisoners are kept in special cells here. Metro Station: "Volkovskaya"; bus no. 22.

16. Children's Prison on Danilovskaya Square (Metro Station: "Danilovskaya").

17. The Institute of Forensic Psychiatric Expertise (known as Solov'evskaya Psychiatric Hospital) on Pavlov Street. Metro Station: "Oktyabr'skaya".

18. Kashchenko Psychiatric Hospital, special section for political prisoners. Directions: with metro to "Profsoyuznaya", transfer to tram no. 14 or 23.

19. Psychiatric Hospital No. 13 in Lyubino (in reality, a psychiatric prison). Directions: with metro to Kazan' Station ("Komsomol'skaya Square"); then with electric commuter train to Lyubino.

20. Psychiatric Hospital No. 14, special cells for dissidents; Bekhterev Street 15.

21. Meshcherskii Psychiatric Hospital (in reality, a psychiatric prison). Directions: metro to Severnyi Station ("Komsomol'skaya Square"); then with electric train to "Meshcherskaya".

22. Camp at "Obiralovka" train station. Directions: from Kursk Station with electric commuter train to "Kurskaya".

23. Serbskii Institute of Forensic Psychiatry, where there are specialists who treat political prisoners. Directions: metro to "Kropotkinskaya", then with bus to stop marked "Kropotkinskaya Prospekt".

24. Institute of Blood. On the twelfth floor, there is a special ward in which prisoners are used as guinea pigs for medical experiments. Directions: metro to "Kutuzovskaya".

25. Krasnopresnenskii District Out-Patients Clinic for Psychiatric Diseases, where there are specialists who treat political prisoners. Directions: metro to "Krasnopresnenskaya".

26. Krasnaya Presnya Prison (transit prison). Directions: metro to "Krasnopresnenskaya".

27. Special prison for army officers in Pokrovsko-Streshnevo district. Directions: metro to "Sokol"; then with bus no. 88 or 176 or with trolley bus no. 12 or 70 to "Pokrovskoe-Streshnevo".

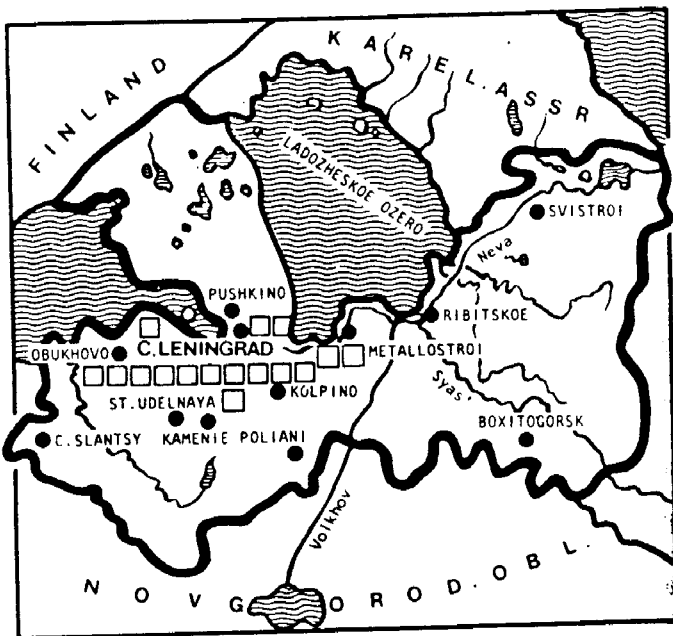
28. Butyrka Prison, stands opposite the Savelovskii Station. Directions: metro to "Novoslobodskaya".

29. Special Reception Room No. 2 of the Ministry of Interior. Directions: metro to "Novoslobodskaya".

30. Camp in Kryukovo. Directions: metro to Leningrad Station (Metro Station: "Komsomol'skaya Square"); transfer to electric commuter train and alight at Kryukov Station.

31. Psychiatric Hospital No. 12 (in reality, a psychiatric prison). Directions: metro to "Sokol", then with bus no. 66 or 68 to "Pechenn'e Street".

LENINGRAD REGION



LENINGRAD REGION

In Leningrad itself, considerable time is needed to locate all the penal facilities in the city – eleven psychiatric prisons and psychiatric hospitals (which contain special K.G.B. wards), three prisons, and four camps. In Leningrad Region, we know of at least another ten camps, though we suspect that there are more.

In *Svir'stoi*, to the north, there is a strict-regime camp where 500 to 600 inmates are assigned to road construction and repair. The name of the camp commander is Captain Maksimov.

In *Rybitskoe*, there is an ordinary-regime camp for approximately 500 invalid prisoners assigned to farm work. Camp commander is Captain Nesterov.

Camps are also found in the outlying areas of Leningrad Region, such as on the road to *Kolpino* as well as in *Kolpino* itself (two ordinary-regime camps for 1000 prisoners each). Prisoners there are given work in machine

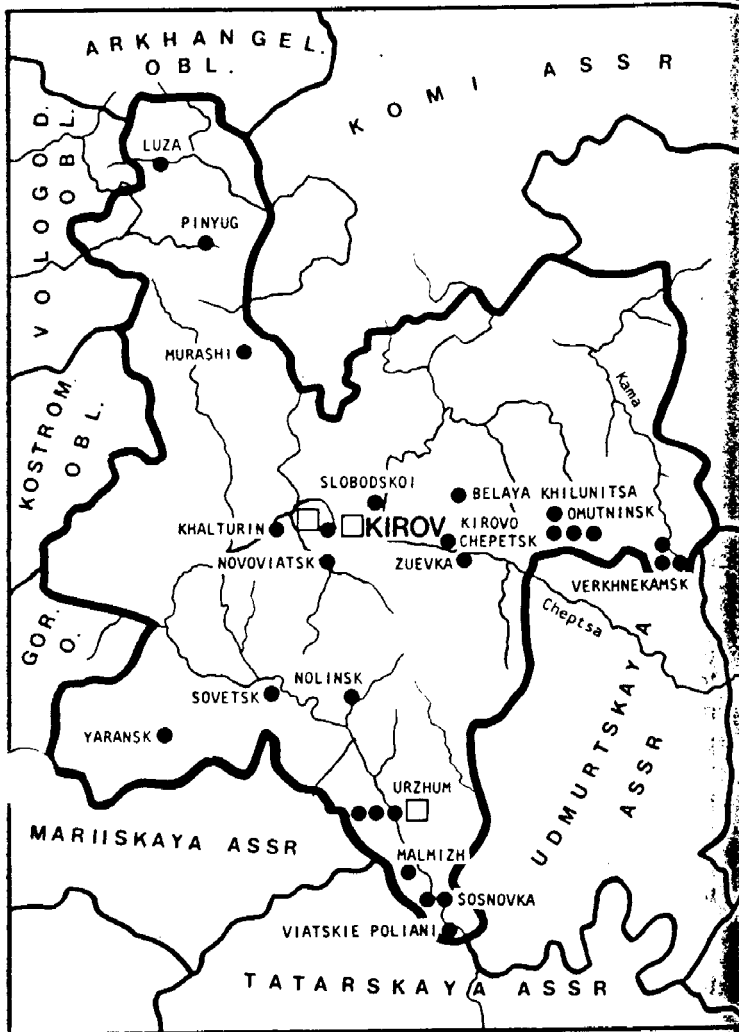


Freedom of religion – "Soviet style": one of 200 000 destroyed churches in the Soviet Union.

repair shops and are used in the *Kolpino* naval construction factory for the loading and unloading of shipments. The approximately 500 prisoners in the camp in *Pushkino* are used in both road repair and farm work. Camp commander is Major Ereameev.

At the camp in *Metallostroi*, 700 to 800 inmates are put to work in the production of hardware items, such as locks, springs, and bedsprings, for the Leningrad Region. Camp commander is Captain Khvostov.

KIROV REGION



Approximately 1500 prisoners in an ordinary-regime camp (no. 216/4) in *Slobodskoi* are assigned to manufacture hardware items in the city for local industry. Camp commander is Major Pelov. Directions: bus no. 31.

In both *Luza* and *Pinyug* (in the northern part of the region), there is a strict-regime camp of approximately



A woman doing "light" work at a camp (Kirov Region; about 400 kilometers northeast of Gor'kii, European part of the R.S.F.S.R.). More women as well as guards can be seen in the forest in the background (photo 1976).

1000 to 1200 prisoners assigned to work on military construction projects in restricted areas.

Approximately 800 prisoners from camp no. 216/2, located in *Murashi*, work in a woodworking industrial plant. While we know of other camps in the vicinity that supply work forces for the logging industry, we have not yet been able to determine their exact location. They have not therefore been indicated on the map.

In *Khalturin*, 60 kilometers west of Kirov, there is a strict-regime camp of up to 2000 prisoners that functions both as a forced-labor and transit facility. The work force is assigned to a lumber mill. There are other camps in the vicinity the precise locations of which we are not in a position to supply. The administration of this group of camps may be found on Lenin Street. Administration supervisor is Colonel Okhlopkin.

The cities of *Novovyatsk*, *Kirovo-Chepetsk*, and *Belaya Kholunitsa* each accommodate a camp of up to 1500 prisoners assigned to logging and peat farming. In *Sovetsk*, 600 to 800 prisoners of an ordinary-regime camp are assigned to the military construction industry. In *Yaransk*,

Thus, you have seen the manner in which the Soviet Union observes the Helsinki accords on the question of human rights and the United Nations Universal Declaration of Human Rights.

What was the purpose of this book? To frighten or astonish you? No. After the tragedies of Auschwitz and Maidanek, after the mass extermination of human beings in Cambodia and Vietnam, mankind will most unlikely be astonished by anything else.

If you have a conscience, however, consider, if you will, the fact that human beings have been systematically tortured and murdered in the Soviet Union for more than 60 years. More than 60 000 000 innocent human beings have perished in these camps. Today, what is left of free thinking or of the various "catacomb" churches in the Soviet Union is slowly being eradicated. The murderers are now looking in your direction!

Their tanks are now standing on the threshold of Europe, their divisions are marching east through Afghanistan, their missiles in Cuba are pointed in the direction of the United States, their warships are cruising every major body of water, and their embassies have proscription lists of the intelligentsia in your country marked for "liquidation" for the day when they take power. The "leftists" in your country, who have been clearing the way for a Communist takeover, would be well advised to remember the fates of Russian and East European Socialists. They were the first to be killed by the secret police. The same will happen to you if you, too, remain indifferent to events in the Soviet Union and fail to join the active struggle against those who are preparing you and your children for a life of lawless camp slavery.

We have given you the facts. It is up to you to decide how you wish to take up the struggle. Your political leaders are now capitulating to the Soviet threat before the eyes of the entire world. The camps are getting closer and closer.

After having read this book, you will no longer be able to tell your children that no one warned you.

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UNITED STATES CONSTITUTION

ARTICLE III, SECTION 3

TREASON AGAINST THE UNITED STATES SHALL CONSIST ONLY IN LEVYING WAR AGAINST THEM, OR IN ADHERING TO THEIR ENEMIES, GIVING THEM AID AND COMFORT. NO PERSON SHALL BE CONVICTED OF TREASON UNLESS ON THE TESTIMONY OF TWO WITNESSES TO THE SAME OVERT ACT, OR IN CONFESSION IN OPEN COURT.

THE CONGRESS SHALL HAVE POWER TO DECLARE THE PUNISHMENT OF TREASON, BUT NO ATTAINDER OF TREASON SHALL WORK CORRUPTION OF BLOOD, OR FORFEITURE, EXCEPT DURING THE LIFE OF THE PERSON ATTAINTED.